Special Issue

Apple Orchard™

JUNE 1984
CCC02438 $3.25 U.S.
£2.80 U.K.

The Premier Magazine for Apple Computer Users



TV's Whiz Kids

Customizing AppleWriter

Apples In Radio

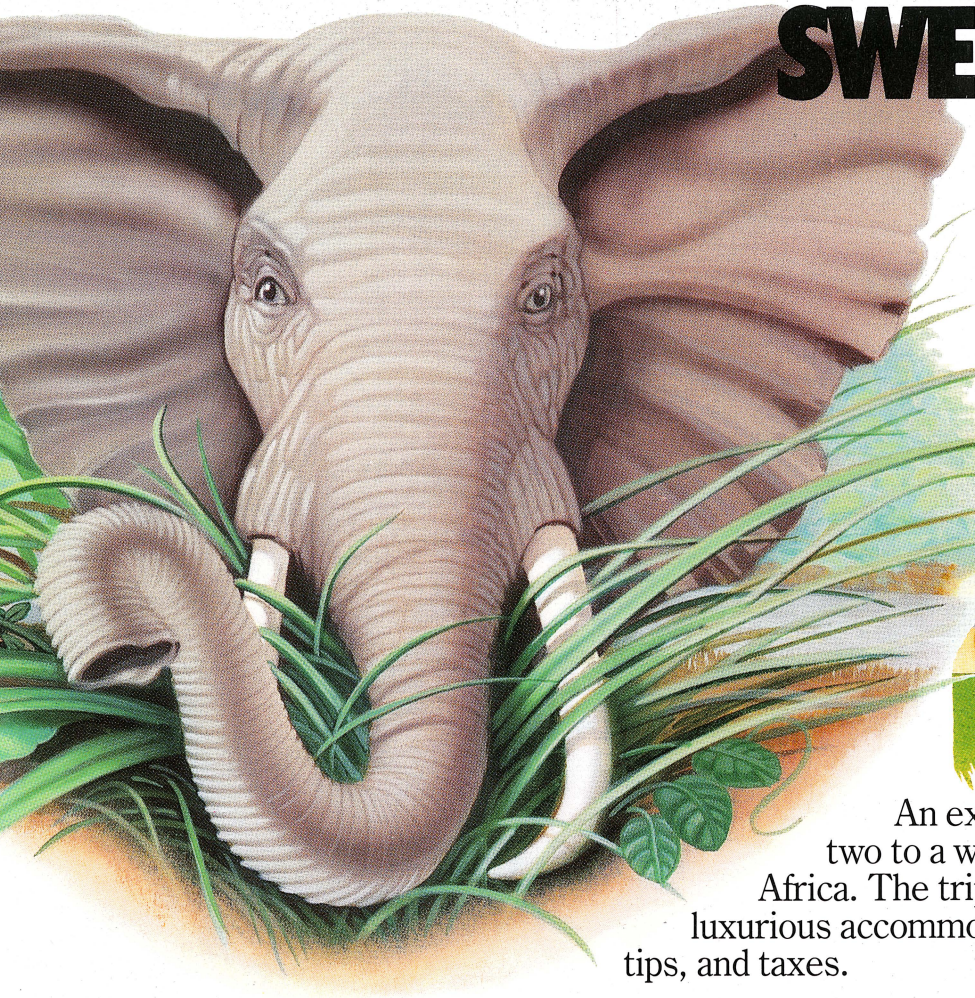
Apple Wizard

Mail Order Or Not

0 71486 02438 06

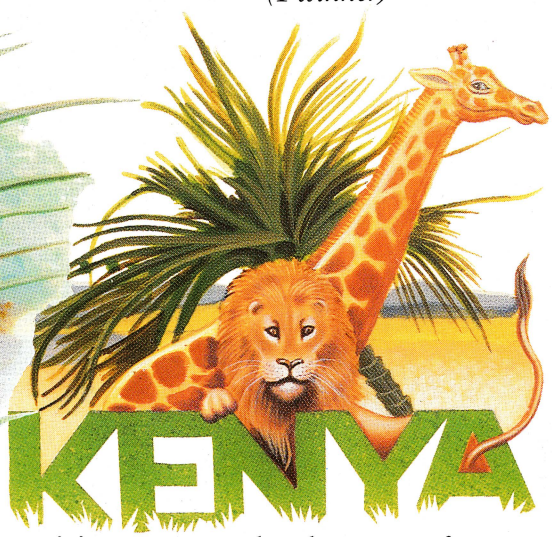
International Apple Core

ENTER THE ELEPHANT™ SAFARI SWEEPSTAKES.



GRAND PRIZE

(1 winner)



An exciting two week adventure for two to a wild game preserve in Kenya, Africa. The trip includes airfare, luxurious accommodations, meals, tips, and taxes.



SECOND PRIZE

(25 winners)

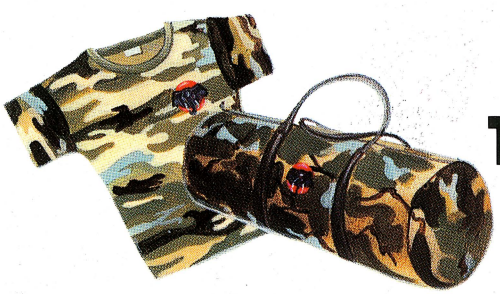
A Bell & Howell 35mm camera. The 35J complete with fine Lumina lens completely eliminates complicated focusing.

FIRST PRIZE

(5 winners)

A Deluxe Camping Package featuring an 8′ x 10′ Wenzel Cabin Tent, four Wenzel sleeping bags, plus a Coleman lantern, stove and cooler.





THIRD PRIZE

(100 winners)

Camouflage Nylon Duffle Bag. This handsome bag is water repellent and double reinforced at all stress points.

And thousands of Elephant Safari camouflage T-shirts featuring the Elephant logo.

HOW TO ENTER

No purchase necessary. Just come into a participating Elephant Safari Sweepstakes dealership where you'll find free entry blanks and official rules. While you're there, check out our full line of quality Elephant memory disks and accompanying products. Entries must be received by July 31, 1984. Void where prohibited.

Dennison

For the Elephant dealer nearest you, call 1-800-343-8413. In Massachusetts, call collect 617-769-8150.

ELEPHANT MEMORY SYSTEMS™

ELEPHANT NEVER FORGETS

Circle HelpCard No. 11

ASCII EXPRESS
Like a little bit of paradise.

No other telecommunications software offers you so much flexibility, speed or ease of use.

Whether you're a business professional dialing up far and distant places or an at home user talking on the local bulletin board, you'll love the variety of features only ASCII Express gives you.

Exclusive to ASCII Express are features such as the most extensive macro library for unattended call-up and receiving of information, a text editor for composing messages without a word processor, and it handles data transfer at speeds up to 9600 baud.

The ASCII Express supports a full range of 80-column boards and printer interfaces. It allows the sending of electronic mail—and it has the ability to emulate over a dozen different terminals.



There's an easy to understand manual and throughout the program you'll find help menus that make using the ASCII Express an absolute dream.

To learn how the ASCII Express can take you to paradise, see your local dealer, or call UNITED SOFTWARE INDUSTRIES at 213-556-2211.

ASK FOR ASK-EE

*Available for Apple, IBM PC, IBM compatibles, CP/M 80 and CP/M 86 machines.

UNITED SOFTWARE INDUSTRIES
1880 Century Park East, Suite 311
Los Angeles, California 90067

Apple, IBM are registered trademarks of Apple Computer Inc. and International Business Machines Corporation respectively. © 1984 United Software Industries Incorporated. All rights reserved.

Circle HelpCard No.37

EDITOR /PUBLISHER
Peter C. Weiglin

MANAGING EDITOR
Gene Wilson

SENIOR EDITOR
Morgan P. Caffrey

SENIOR EDITOR
Lenore Wolgelenter

EDUCATION EDITOR
Joyce Conklin

COPY EDITOR
Nicole Lefcourt-Bolt

ADVERTISING COORDINATOR
Cindy C. Mack

ART DIRECTOR
Mark J. Eaton

CONTRIBUTING EDITORS
Mark L. Crosby
Neil D. Lipson, P. E.
A. S. (Woody) Liswood
Barry D. Bayer
Mike Kramer

BUSINESS MANAGER
Joanne Short

CIRCULATION MANAGER
Dawn Brown

ACCOUNTING MANAGER
Ellen Roznar

CUSTOMER SERVICE
Eva Baragona

ADVERTISING DIRECTOR
Jay Eisenberg
JE Publishers' Representative Company
6855 Santa Monica Blvd.
Los Angeles, CA 90038
(213) 467-2266

Boston - (617) 437-7628
Dallas - (214) 660-2253
New York - (212) 724-7767
San Francisco - (415) 864-3252
Chicago - (312) 445-2489
Denver - (303) 595-4331

Address for all subscriptions, correspondence, advertising material, manuscripts, etc.:

Apple Orchard
P.O. Box 6502
Cupertino, CA 95015
(408) 252 - 0902

APPLE ORCHARD (ISSN 0277 - 1950) is published monthly for the International Apple Core by Orchard Potentials, Inc., 20823 Stevens Creek Blvd., Building 3C Suite A, Cupertino, CA 95014. Second Class Postage paid at Cupertino, CA and additional entry points.

Subscription Rates (U.S. funds): $24.00 for 1 year, $45.00 for 2 years in the U. S., FPO & APO; $30.00-1 yr., $55.00-2 yr., in Canada; $36.00 (surface), $48.00 (airmail) in Mexico, Central America, Caribbean Islands, Phillippines, Samoa; $36.00 (surface), $60.00 (airmail) in South America, Europe, North Africa; $36.00 (surface), $72.00 (airmail) in Asia, Middle East, South Africa, Australia.

"Apple" and the Apple logo are trademarks of Apple Computer, Inc. The opinions expressed herein are those of the authors, and do not necessarily represent the views of the Publisher or of the IAC. While we appreciate the co-operation of Apple Computer, Inc. and other organizations, APPLE ORCHARD does not necessarily represent the views of any of these companies. **Our existence derives from the thousands of Apple users; it is their interests which we serve.**

APPLE

Take a Bite...

Volume 5 Number 5 June 1984
Cover Photography by Mark J. Eaton

Departments

Textfile 4

IAC People 6

Peter C. Weiglin- **Planting A Seed** 8

Philip Chien- **Ask The Apple Wizard** 11

Scott Knaster- **Mac-Inations** 46

The New Stuff 62
Temptations, Delicacies, and Necessities

Advertisers Index 68

View Port 72

Orchard

Articles

12 **Hot Stuff for the Apple ///** – Don Norris
A roundup of what's happening in Three-land.

20 **Review: Routine Machine** – Gary Bettes
A utility to help Applesoft.

21 **Review: Work Force II** – Gary Bettes

22 **The Mail Order Dilemma** – Michael Wendland
What's the best way to buy.

26 **Exploring Pascal on the Apple Two** – John B. Matthews, M.D.
Would you believe a calculator?

26 **"SLAVE"** – Lenore Wolgelenter
Oh, to be 14 again. . .

27 **Foreign Language Word Processing with Screenwriter II** – Edward Haymes
Breaking a different language barrier.

32 **Apple's New //c** – Peter C. Weiglin
Here's the computer for the rest of the rest of us.

37 **//c Obscura** – Gene Wilson
It's all part of Apple's plan. . . .

43 **The Whiz Kids** – Lenore Wolgelenter
The Apple's real work is *o ff* screen.

45 **The Hewlett Packard 2225C** – Gene Wilson
New, small, and lightweight.

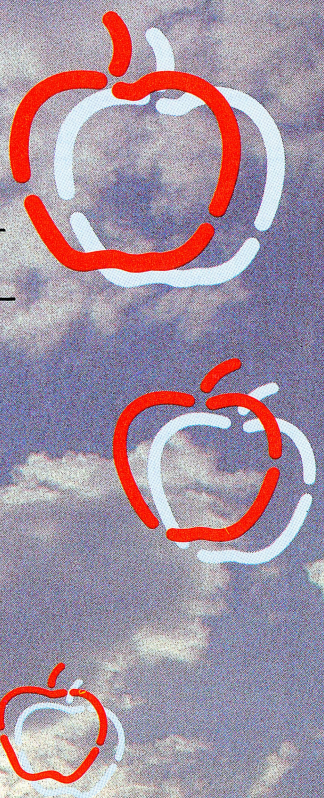
49 **Format II** – Neil Lipson
A multi-featured word processor.

54 **/// EZ Pieces** – Albert Chu
Also called Appleworks on the //e and //c.

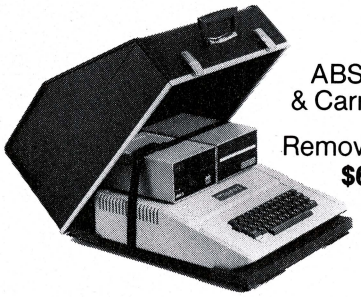
56 **The Broadcast Apples** – Lenore Wolgelenter
Our favorite machines get high ratings.

58 **Customizing AppleWriter II-///** – Steve Goldstine and Mary Ann Vizdos
One-keystroke convenience for common functions.

60 **Review: The Genius. . .** – Gene Wilson
Are most pages worth seeing all at once?



Travel With Your Apple...
Call (800) 847-4176!



ABS Storage
& Carrying Case
with
Removable Cover
$69.50*

*UPS Shipping Included.

Apple • IBM • Epson

Call for Complete Computer Case Catalog.
Credit Card Customers Call Toll Free

Fiberbilt
Ikelheimer-Ernst, Inc.
601 West 26th Street
New York, New York 10001-1199
(212) 675-5820 (N.Y.C. area)

VISA
MasterCard

Circle HelpCard No. 19

FOR APPLE II (ETC.)COMPATIBLES

HOT APPLE PI **$39.95**

This is a deluxe version of our Pi TO n PLACES program. It works the same, but is intended more for educational uses, as the history of Pi is presented, along with an explanation of how Pi is computed and how the program works. In addition, if the user has a Thunderclock, the process can be timed. Calculates Pi to any number of places you desire, with range determined by RAM size (48K limit approx. 7500). Fastest of its kind, even though in BASIC (so you can list and understand it).

STARSHIP MISSION SIMULATOR **$39.95**

Floating Point version of the original "STAR TREK" game with nice new modifications. Simulates real time combat (if you don't react in time, the enemy does not wait for you before attacking again) and allows for faster data entry. More realistic scoring and rules. Hi-res introductory graphic provide "prized" images in a kinetic display. But the most important feature is the 30 odd page manual, fully illustrated and covering all known versions of the program. Its style is as entertaining as the script of a movie, and thousands have been sold to collectors who never even saw a computer! This is the only manual available for "TREK", and to our knowledge, no other source for the original TREKS exists.

IMAGE MANIPULATOR **$39.95**

This Apple II HI-RES Graphics utility makes it easy to marry images (double expose) or invert colors. The effects follow the memory map, and are interruptible so as to allow creation of venetian blind results. Storing, Loading, Viewing, and Manipulating images to/from page 1/2, and even toggling between page 1 and 2 rapidly for a neon sign effect, is all handled with single keystroke simplicity. FUN!

ORDER toll free (VISA and Master Card only) 1-800-547-5006, or enclose check with order. Sorry no COD orders accepted. Please allow two to four weeks for delivery. Dealer and club pricing available on request. Add $2.00 for shipping and handling.

EXPANDING SPACE SOFTWARE
4639 SE 34th, Portland, OR 97202

Circle HelpCard No. 15

Textfile

This is the issue of Apple Orchard which we alluded to earlier: the one in which the Apple //c would be introduced. Again, our coverage is more than superficial, thanks to the people at Apple; you are the beneficiary.

The //c represents a real break for the personal computer marketplace. Like the Macintosh, it's a "sealed" machine; the case is not to be opened by the user. The documentation and tutorials are thorough and attractive. The bottom line is likely to be that the //c will outsell every personal computer on the market so far, and that the buyers will be a broader cross-section of the population. We could be at the beginning of another revolution, and we're happy to share it with you here.

As you know, retail prices are not fixed, so there is a fairly wide price range for Apple computers and other products, depending on where you are and when you're buying. Mail Order computer merchandise has become a big business, but the controversy that led Apple to a non-mail order policy still rages. Mike Wendland takes a calm look at the situation in this issue.

In two separate articles this month, Lenore Wolgelenter looks at the broadcasting industry and the Apple computer. Television production and radio station management are not the same, but both benefit from the "offstage" power of the computer.

Albert Chu's article on "3 EZ Pieces" could just as well have been written about an Apple //e-//c product called "AppleWorks"; they're the same thing. By whatever name, it's the best thing to come along for Apples yet. With our ///, data bases up to 180K or 3,000 records can be created and handled. With the spreadsheet and word processor as part of the package, it's great. We'll be covering these integrated programs in greater depth.

There's more: product reviews and tips for Macintosh, Apple ///, and Apple //. Also a surprise for Pascal addicts, and some how-to-do-it material on AppleWriters // and ///. That H-P printer looks like an ideal mate to a //c (battery-powered), but there's no serial interface yet. H-P folks say it's coming.

Enjoy — and let us know how we can make Apple Orchard even better.

—PCW

Something no modem has ever said before.



If you're looking for a premium modem without a premium price, here's a word of advice: Apple.

Introducing the Apple® Modem 300. And, to keep up with the business world, our faster Apple Modem 1200.



As you'll notice, the Apple Modem is hardly noticeable under a desk phone.

Inside, they're packed with all the technical wizardry you would want in an intelligent modem. Auto-dial. Auto-answer. Built-in error diagnostics. And compatibility with all the latest advanced communications software.

But the real message is located outside, due north of the little green light.

That one familiar symbol tells you as much as a gigabyte of specs. It says Apple quality. Apple technology. And in the unlikely event you should need it, Apple service.

It also means total compatibility with whatever Apple you own. Particularly since we include the right accessory kit to get any system in our line on line. Immediately.

We even give you a subscription offer to THE SOURCE℠ and a free demonstration of CompuServe.® Together, they let you access almost any subject known to mainframes.

News reports. Dow Jones averages. Sports scores. Closing prices on pork bellies.

You can send electronic mail. Play games. Bank at home. Make friends. Influence people. Find the lowest air fares for business trips. Or do almost anything else you like.

And since the computer age happens to coincide with the plastic age, you can charge your Apple Modem with an Apple Credit Card.

Which, along with the low price, makes buying an Apple Modem as much fun as using one.

That's something no modem has been able to say before, either.



The cable, phone cord and power supply are all included. And we offer a serial interface card for the Apple IIe at an unusually reasonable price.

Soon there'll be just two kinds of people. Those who use computers. And those who use Apples.®

For an authorized Apple dealer nearest you call **(800) 538-9696.** In Canada, call **(800) 268-7796** or **(800) 268-7637.** © 1984 Apple Computer, Inc. Apple and the Apple logo are registered trademarks of Apple Computer, Inc. CompuServe is a registered trademark of CompuServe Corp. THE SOURCE is a servicemark of Source TeleComputing Corporation, a subsidiary of The Reader's Digest Association, Inc.

International Apple Core

Officers

Dave Alpert	President	(312) 648 - 1794
Harlan G. Felt	Vice - President	(408) 554 - 5211
Louis H. Milrad	Vice - President	(416) 222 - 8447
Allen G. Sneider	Treasurer	(617) 742 - 6100
Joseph H. Budge	Secretary	(408) 554 - 5071
Kenneth D. Silverman	Executive Director	(408) 727 - 7652

Regional Directors

Region Information

			Region	Area
Stephen Lloyd	(Region 1)	(415) 571 - 7370	1	CA zips 94100 & up, WA, OR, NV, HI, AK, & American Samoa
Jim Simpson	(Region 2)	(805) 492 - 3391	2	Southern California, zips 93999 & lower
Mike Kramer	(Region 3 & 4)	(713) 358 - 6687	3	AZ, MN, TX, OK, AR, MO, LA, MS, TN
Bob Sander-Cederlof	(Region 3 & 4)	(214) 324 - 2050	4	ID, UT, MT, WY, CO, ND, SD, NE, KS, MN, IA
Barry Bayer	(Region 5)	(312) 798 - 6496	5	WI, IL, MI, IN, KY
Neil Lipson	(Region 6)	(215) 356 - 6183	6	PA, NJ, FL
Robert Ramsdell	(Region 7)	(617) 546 - 3104	7	ME, CT, MA, NH, RI, VT, NY, DC
Tom Wysocki	(Region 8)	(216) 942 - 7086	8	OH, WV, MD, DE, VA, NC, SC, GA, AL

Roger Keating	P. O. Box 448 Double Bay 2048, N S W Australia	(612) 389 - 2994
Auby Mandell	409 Queen St. W. Toronto, Ont. Canada M5V 2A5	(416) 593 - 9862
Dr. Steve Bellamy	#402, 5-7-13 Tajiri Ichikawa, Chiba, Japan	0473 - 79 - 3610

Coordinator:
Louis H. Milrad
15 Sydnor Rd.
Willowdale, Ont, Canada M2M 2Z9
(416) 222-8447

Special Interest Groups

Agriculture
Susie Allen
1055 Saratoga-Sunnyvale Rd
Sunnyvale CA 94087
(408) 746-0626

Apple ///
Don Norris
1850 Union St # 494
San Francisco CA 94123
(415) 921-3774

Calc Applications
John C. Hunter
58 McClure Crescent
Scarborough, ONT Canada M1B 1J6
(416) 292-2590

Data Management
Malcolm Slovin
10515 Tabor St # 1
Los Angeles CA 90034
(213) 837-3741

Dental
Ellis D. Neiburger
33263 N Cove
Wildwood IL 60030
(312) 244-0292

Education
Ted Perry
2331 Rainbow Ave
Sacramento CA 95821
(916) 485-1690

Family
David Stern
6921 Old Stage Rd
Rockville MD 20852
(301) 881-2543

Games
Jim Eatherly
3342 18th St NW
Washington DC 20010
(202) 232-6046

Handicapped
David P Szetela c/o Micro Sparc
POB 261
Lincoln MA 01773
(617) 259-9710

Medical Services & Education
Dr. Terry Mikiten
7703 Floyd Curl Dr.
San Antonio TX 78284
(512) 691-6367

Investments
John McMullen
Perry St, Jefferson Valley
New York NY 10535
(914) 245-2734

Laboratory Applications
Dr. Jaime Prilusky
San Martin 7500; 5503 Carrodilla
Mendoza ARGENTINA

Languages
Ed Titlebaum
674 Quaker Meeting House Rd
Honeoye Falls NY 14472
(716) 275-4061

Lisa
Gene Pope
3901 S Elkhart St
Aurora CO 80014
(303) 690-7559

Medical Office Management
Alexander Kleider
28 West King's Highway
Sioux City IA 51104

Telecommunications
Craig Vaughan
7927 Jones Branch Dr # 400
Mc Lean VA 22102
(703) 471-0572

COMMITTEES

IAC Librarian	Maj. Terry N. Taylor	(213) 372 - 4134
Software	Dr. Charles Smith	(416) 297 - 3575
Club Activities	Ransom Fields	(415) 863 - 1093
New Club Assistance	Karen Zinsmeister	(408) 727 - 7652

Videx INC. TM

ULTRATERM?

JUST ASK THE PROFESSIONALS!

With the wide variety of peripherals available, it's difficult to evaluate the quality of accessories for your Apple. Listen to what the professionals say about UltraTerm.

BYTE—FEB. '84
"Overall, the UltraTerm display card is one of the best peripheral devices I have seen to enhance the display capabilities of the Apple."—P. Callamaras

SOFTALK—SEPT. '83
"The UltraTerm shines brightest in use with spreadsheets and word processors."

COMPUTER RETAILING —FEB. '84
"The UltraTerm is a high quality investment for anyone who has an Apple product and wants to add to it."

PEELINGS II—VOL. 4. NO. 8 '83
"The UltraTerm will be the new industry standard for Apple video display cards. The availability of the extra modes will enhance almost any software product that uses the text screen."

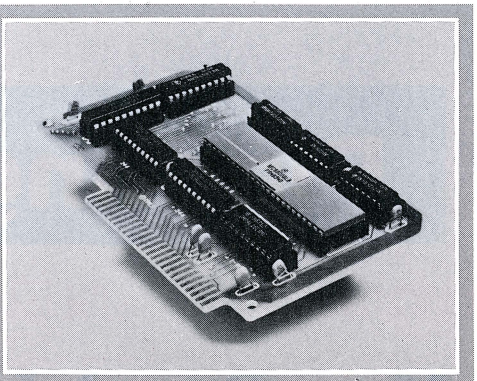
PERSONAL COMPUTING —MAY '83
"Perhaps the most impressive achievement of the UltraTerm expansion board is that the character set it produces is so sharp that its difficult to see the dots that make up each character."

The experts agree—the UltraTerm is one of the best display devices for Apple computers.

Videx Inc.
1105 NE Circle Blvd.
Corvallis, OR 97330
(503) 758-0521

Circle HelpCard No.38

AN AFFORDABLE 68000 System for your Apple!



68000 Mainframe architecture is now available for 8 bit systems with **McMILL**.

McMILL features the new MC68008 member of the M68000 family, and offers Apple II, IIe users a no frills, low cost 68000 based development system.

LEARN MORE ABOUT THE "HEART" OF THE LISA & MACINTOSH SYSTEMS WHILE STAYING WITH YOUR PRESENT II OR IIe SYSTEM.

McMILL IS BOTH SOURCE & OBJECT CODE COMPATIBLE WITH ALL 68000 PROGRAMS, MAKING YOUR APPLE A 68000 BASED DEVELOPMENT SYSTEM!

McMILL is the 68008 based coprocessor board that:
*Fits into any slot on Apple II, IIe or Apple compatible.
*Uses Apple memory and clock for true 6502/68008 coprocessing.
*Comes with ready to run 68000 Fig FORTH and a 6502/68000 MACRO cross Assembler.
*Carrys a full one year hardware warranty.
Features ultimate efficiency in design & power with a fully loaded system for UNDER $300.00.

To order, see your local dealer or contact:

STELLATION TWO

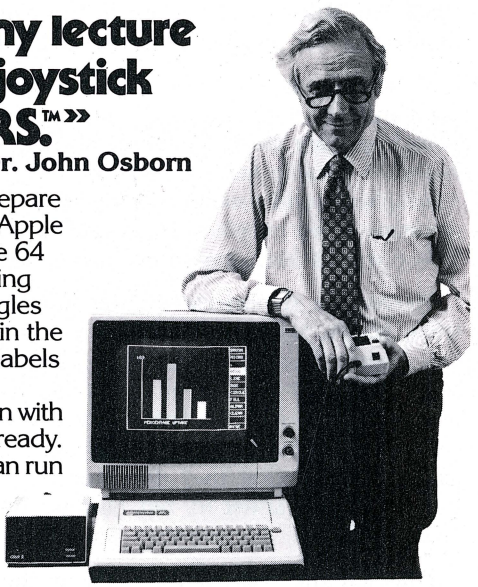
The Lobero Bldg.
Box 2342
Santa Barbara, CA 93120
(805) 966-1140 / 966-4964

Lisa/Macintosh, Apple are trademarks of Apple Computer Inc. Fig Forth offered as public domain from Mountainview Press. 6502/68000 Cross Assembler from S-C Software Corp. McMILL, trademark of Stellation Two Inc.

Circle HelpCard No. 33

"I made slides for my lecture in minutes using a joystick and FLYING COLORS.™"

– Dr. John Osborn

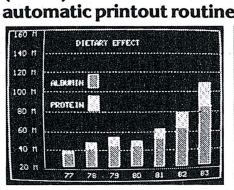


It was easy for Dr. Osborn to prepare for his lecture. He sat down at his Apple (it could have been a Commodore 64 too) and drew with the joystick using elastic lines and automatic rectangles and circles. Presto. Then he filled in the colors. Zip. Zip. Next, he typed in labels with Flying Colors Alpha Mode.

After he photographed the screen with Polaroid instant slide film he was ready. Of course, for smaller groups he can run the "Slide Show" feature and use the computer for presentations.

It's a snap with FLYING COLORS. **$39.95***

At your dealer's now or call toll free (800) 874-1888. In California call (415) 331-3022. * **Also available with automatic printout routines for $69.95.**





FLYING COLORS™ COMPUTER GRAPHICS SOFTWARE

Circle HelpCard No.41

Another creation from the Computer Colorworks.

Planting A Seed

More Bread, Less Circus

I think we watched an era end a few weeks ago, even as the era of the Apple //c is beginning. Follow along with me for a few minutes and let's see if there's a connection.

A phenomenon of the microcomputer explosion has been the User Show. The first of these was eight years ago when a fellow named Jim Warren organized the West Coast Computer Faire. That first Faire in San Francisco mostly featured hobbyist-businessmen at card tables in small booths. It also featured much interaction among people with a common interest.

As more people bought microcomputers, the West Coast Faire grew in number of exhibitors and attendees. Mr. Warren took to wearing roller skates to improve his mobility about the expanded exhibit area. Other folks said, "Why can't we put on a show too?", and promptly did. The most successful of these was a Boston businessman named Jerry Milden, who organized the series of Applefests around the country in 1982 and 1983. Mr. Milden will never win the Nobel Prize for diplomacy, but you have to respect his accomplishments.

Meanwhile, local shows and swap meets have been proliferating. Both the local and the larger shows have been becoming more "commercial." The seminars and speeches became less and less visible. The fish market atmosphere (and aroma) was becoming more and more common. More people started coming to the shows not to see what's new, but to get a *deal* on something.

Meanwhile, the microcomputer industry has its own trade shows, the largest of which is the Fall Comdex in Las Vegas. The trend there too is away from improving the merits of a product or its quality and toward pure hoopla. At the most recent Comdex, there was as much talk about packaging as about programming. Many exhibitors said that they didn't go to Comdex so much because they wanted to, but because they felt they "had" to.

That left the West Coast Faire as the only show with the cachet of originality, right? Wrong. Last year, Mr. Warren hung up his skates and sold the Faire to Eastern Interests. The new owners promptly adopted a more dignified image, and raised the rates. They wound up bragging about "spacious aisles", but that really meant there were fewer exhibitors. Press reports and feedback from some exhibitors indicate that attendance was down (why not, with shows popping up about once a week?) and that business was, in a word, "lousy".

An outstanding exception at both Comdex and the West Coast Faire, by the way, was Apple Computer, whose booth attracted the largest crowds. They demonstrated what was new and generated a good deal of the excitement singlehandedly. But most companies, understandably unwilling to put together a 52-week travelling "Show Unit", are clearly re-evaluating the value of these shows to their business, and they're cutting back.

Why? There's the connection with the Apple //c. What made the Faires, Fests, Ramas, etc. attractive, it seems, was the technical novelty of the microcomputer, and the large percentage of the market that was composed of enthusiasts. Without enthusiasts, there's just less enthusiasm. The Apple //c is not an enthusiast's computer, because it's not expandable. The computer shows are proving not to be a cost-effective way to reach the mass market. They're contractable. The smart show promoters are beginning to focus on segments of the market, and it's a reasonable bet that shows will generally be smaller and more focused hereafter.

But the //c could be the machine that sparks the real personal computer revolution in the world. That's more important than any show, which is why the emerging era is more important than the one that's ending.





YES, sign me up! Apple Orchard

1 YEAR SUBSCRIPTION 12 ISSUES

USA
☐ 1 yr. $24.00 ☐ 2 yrs. $45.00

CANADA
☐ 1 yr. $30.00 ☐ 2 yrs. $55.00

ELSEWHERE
☐ 1 yr. Surface - $36.00 (Write for air mail rates.)

Name _____

Address _____

City _____ State _____ Zip _____

☐ Check/Money Order

Interbank No. ☐☐☐☐ 4-digit number above your name on MasterCard

☐ MasterCard

Charge Card No. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

☐ VISA

Credit Card Signature _____ Card Expires _____

Payment must accompany order and must be made in U.S. funds and drawn on U.S. bank. Make check payable to APPLE ORCHARD.

Subscription cards

Help Stamp Out Magazine Theft...
Give one of these coupons to people who "Borrow" your copy
Er...this is your copy, isn't it?

YES, sign me up! Apple Orchard

1 YEAR SUBSCRIPTION 12 ISSUES

USA
☐ 1 yr. $24.00 ☐ 2 yrs. $45.00

CANADA
☐ 1 yr. $30.00 ☐ 2 yrs. $55.00

ELSEWHERE
☐ 1 yr. Surface - $36.00 (Write for air mail rates.)

Name _____

Address _____

City _____ State _____ Zip _____

☐ Check/Money Order

Interbank No. ☐☐☐☐ 4-digit number above your name on MasterCard

☐ MasterCard

Charge Card No. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

☐ VISA

Credit Card Signature _____ Card Expires _____

Payment must accompany order and must be made in U.S. funds and drawn on U.S. bank. Make check payable to APPLE ORCHARD.

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 626 CUPERTINO, CA

POSTAGE WILL BE PAID BY ADDRESSEE

Apple Orchard
P.O. Box 6502
Cupertino, CA 95015

Subscription cards

Help Stamp Out Magazine Theft...
Give one of these coupons to people who "Borrow" your copy.
Er...this is your copy, isn't it?

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 626 CUPERTINO, CA

POSTAGE WILL BE PAID BY ADDRESSEE

Apple Orchard
P.O. Box 6502
Cupertino, CA 95015

Ask The Apple Wizard

by Philip Chien

"Technically-oriented" questions should be sent to:

Apple Orchard
P.O. Box 6502
Cupertino, CA 95015
Attention: Apple Wizard

(This is a monthly (more or less) solution column. The Apple Wizard will try to answer questions of general interest. No questions will be answered outside the limits of this column, and no materials will be returned. NO attempt will be made to provide "free consulting service"! However, the Apple Wizard hopes that answers provided in this column will give you a greater understanding of your computing environment.)

Q: I have a Z-80 card in my system, and it doesn't seem to "like" other cards in my system. When I upgraded my 56K CP/M to the 60K version, the system hangs when I try to boot the master disk.

A: Put your Z-80 card into another slot. The Z-80 card is a very temperamental device, and it is sensitive to the timing cycle of the Apple's bus. Changing the slot of the Z-80 card puts it into a different phase of the Apple's timing cycle, and may correct the problem. Don't forget to turn off the Apple's power before removing or inserting any card.

As a general rule, if a slot independent card is giving you problems, try a different slot.

Q: Apple's BASIC manuals are quite excellent, and I've learned how to program quite well in BASIC, but I want to know more about how to use my machine. How can I learn?

A: If you buy Apple Pascal, you get an excellent Pascal tutorial (It is also available separately from McGraw Hill).

If you are interested in learning more about the hardware in your machine, then Quality Software has a book on the Apple's circuitry "Understanding the Apple II".

If you want to know more about DOS then Quality Software has a book titled "Beneath Apple DOS".

If you want to learn machine language, then Sierra Online Systems has a combination kit: the LISA assembler (the program used to edit and compile machine language code), an excellent book, and a set of machine language utilities "SPEED ASM".

There are also several other good books out, and many local colleges are starting to teach micro-computer languages.

Q: I have a Hayes Micromodem II, and my company just upgraded it's phone system. It used to work, but now it doesn't!

A: The DC Hayes Micromodem will only pulse dial. It has no way to produce the DTMF tones needed for Touch Tone operation. Undoubtedly, your phone system will only accept Touch Tone signals. Either upgrade your modem to a modem which is Touch Tone compatible (e.g. Hayes Smartmodem, or Micromodem //e, Novation Apple Cat, etc.) or do the following each time you use the modem:

Get a Y-modular jack (from any electronics shop or phone store) and put a normal Touch Tone phone into one jack, and the micromodem into the other jack.

Use the normal phone to dial the system you want to get on to. Put the Micromodem into terminal mode, and dial the phone number "1". This will setup the Micromodem, and prepare it to receive data (The 1 is a dummy digit). Wait until you get a carrier; hit return on the Apple's keyboard, and hang up the phone. Then proceed normally. Don't forget that you can't use the normal phone while online with another system.

(Touch Tone is a registered trademark of Bell Labs.)

Q: How can I dump a Hires picture from programs which don't support Hires dumps?

A: If you can exit the program WITHOUT erasing memory, then you can boot a HIRES dump program, or send the proper commands to a graphics interface card.

With Pascal 1.1 programs, (e.g. Business Graphics, PFS Graph, etc.) you can hit RESET to exit the program, and either boot a dump program, or type in the proper commands.

If you have a graphics dump interface card, and you are programming your own graphics (e.g. an Apple LOGO program), then you can send the graphics card the proper control characters to dump the graphics.

Q: How can I use the double Hires graphics on my Apple //e?

A: First, you have to determine what revision motherboard your Apple //e has. On the artwork of the motherboard, near the slots, is a revision number. It will end in either an A or B. If the //e was purchased before April '83, then it is probably a Rev A motherboard, in which case bring the //e back to the dealer where you bought it, and request (politely) for an upgrade to Rev B specs.

Second, you need an extended memory, 80-column card. You can use either the Apple card, another manufacturer's, or an RGB //e card with the extended memory, or another memory card.

Third, you must remove the jumper on the memory card. The manual for the card should help you determine where the jumper is.

Fourth, you need software which will support the double Hires graphics. There are several demo programs available in magazines, some utilities coming out on the market, and some newer commercial programs will use the double Hires if you have it.

No, unfortunately, you can't use the double Hires on an Apple II.

"HOT STUFF"

For The Apple ///

Software/Hardware for your Apple

by Don Norris

This is a look at what is happening in the Apple /// software and hardware world and those developers producing products taking specific advantage of some of the Apple /// features.

One of the built-in features of the Apple /// is software definable keys such as the Open Apple Key and the Control key. Software developers are beginning to take advantage of this capability. One example of user definable function keys are the glossaries you can create with AppleWriter. After you define the glossary, by simply pressing Open Apple and another character, you can create over 52 special functions. Version 2.0 of AppleWriter lets you include CONTROL characters in your glossary files.

For example, since I use both AppleWriter and Word Juggler, I have defined the "."(dot) key on the 10 key numeric pad to print a document in AppleWriter so it is now standardized with Word Juggler. This way when I am printing from either word processing program I can print in nearly the same way with either one. The specific sequence I have developed for AppleWriter is as follows:

```
[G]?.[P]PR[N] ] [P]NP]
```

The square brackets around a character represent a CONTROL character, such as [G]. The right square bracket "]" is a carriage return. The use of this is explained on page 53, in Volume Two of the new AppleWriter Manual.

The definition of this sequence is the following:

> [G]?., creates the glossary entry "." on the numeric keypad, [P]PR[N]] prints to the console the ASCII equivalent of [5] on the numeric keypad, which turns off the video output so that the document will be "print ed" to the spooler faster, [P]NP] then prints the document in my case to ".spool", which is the printer destination under the print/program menu of AppleWriter.

I have created another sequence which runs the Apple Speller Program by pressing one key on the numeric pad.

Another example of definable function keys is the [K] sequences you can create with Advanced Version Visicalc. For each model I use with Advanced Version VisiCalc, I define a sequence so that when I press [K] S the model is automatically saved by its pathname and filename. Sure beats entering /SS(Pathname)/(filename) every time you want to save a model.

Several software companies writing software and some brief descriptions are listed below:

Sun Data Products
95 West 100 South
Logan, Utah 84321
(801) 752-7631

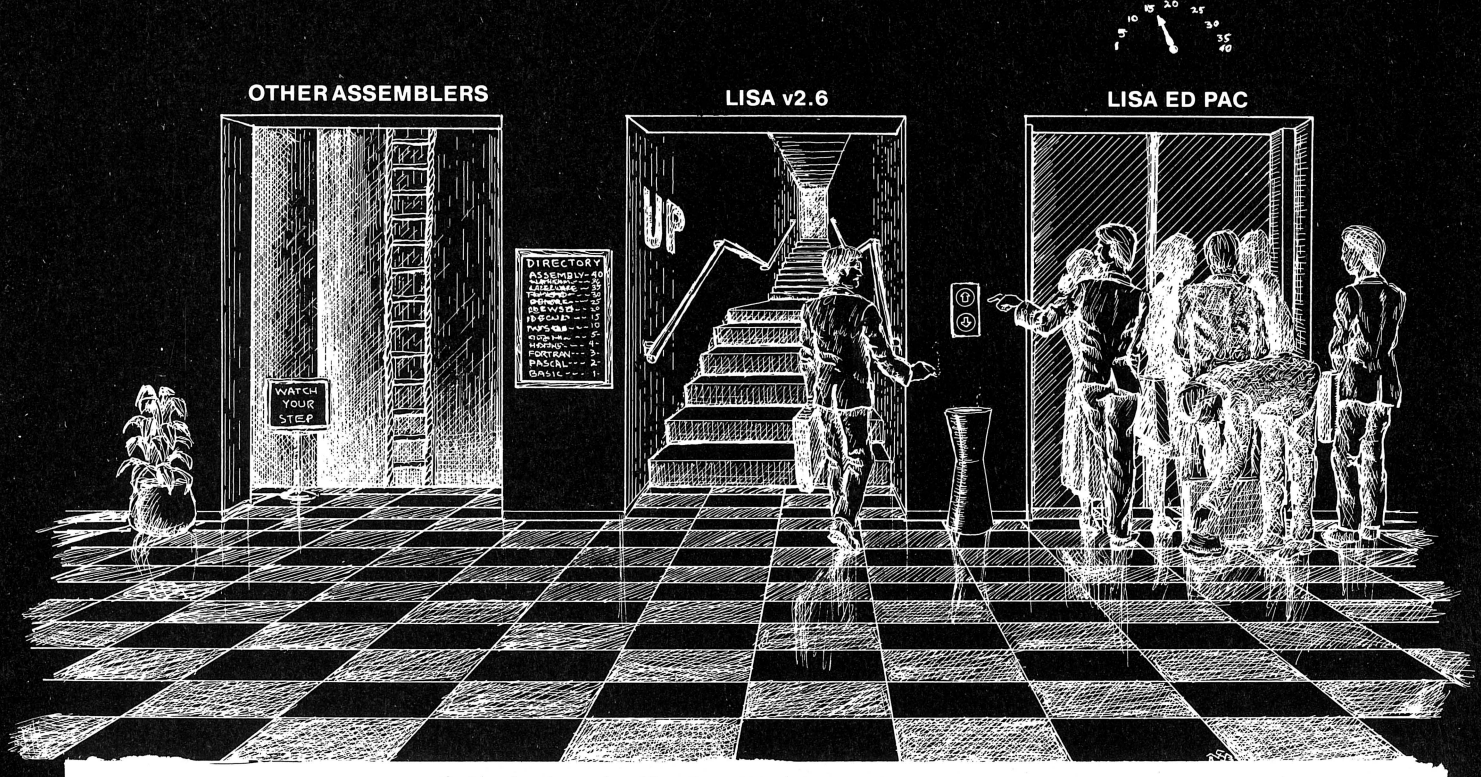
LIFESTAF, a program which enables life insurance agents to make sophisticated forecasts of individual's life insurance requirements based upon the financial information supplied by the insurance buyer. The program enables the agent or other financial advisor to make changes in the information and determine the results with the program's "what if" capability.

PRINTER DRIVER ///. Allows most printers to be used with most printer interface cards designed for the Apple . The driver can be customized to a particular interface card by changing the configuration block using the System Utilities Program. In addition, included are drivers already configured for the following cards:

- Epson APL
- Apple] [Parallel
- Tymac PPC-100
- Microtek RV-611C
- MPC
- Orange Micro Grappler interface
- Orange Micro Grappler Plus
- Microtek Apple Dumpling - GX
- Microtek Dumpling-64 Buffer/spooler

There are three ways to learn 6502 Assembly Language on your Apple Computer:

Hard Easy Easiest



Introducing the Easiest Way: The LISA Ed Pac™

You can't deny that learning assembly is extremely important for you if you want to make the most of your work. If assembly language wasn't so important, why are almost all of the top selling programs available for the Apple II written in assembly language? But let's face it, learning 6502 assembly language isn't a piece of cake. At least not until now. Because now there's the LISA Education Package™ from Lazerware. It'll have you up to speed with assembly language in a fraction of the time it would otherwise take.

The LISA Ed Pac™ begins with LISA v2.6, the favorite assembler of beginners and professionals alike. More Apple owners have learned 6502 assembly language using LISA than all the other assemblers combined. More tutorial material is available for LISA, including books by D. Fudge, R. Hyde, W. Maurer, and R. Mottola. Randy Hyde's 300-page *Using 6502 Assembly Language* is included in the LISA Ed Pac™.

Next we threw in SPEED/ASM™, a set of 6502 subroutines that make programing in assembly language as easy as BASIC. And for those who want to see how it's done, the SPEED/ASM source listings are also included. We also included the LUD #1 (Lisa Utility Disk #1) which includes an extended editor for LISA and a LISA source file listing utility. Finally, we added MAXWELL'S Debugger™ to the LISA Ed Pac. This ultra-powerful debugger/monitor makes learning and debugging 6502 assembly language a breeze.

LISA Ed Pac Price $149.95, A $229.75 Value (suggested retail).
Available at dealers everywhere, or directly from:

LAZERWARE

For a copy of Lazwerware's *A Guide to Purchasing a 6502 Assembler for Your Apple II or Apple //e*, write us at Lazerware, 925 Lorna St., Corona, CA 91720 or call us at (714) 735-1041
Note: LISA, LISA v2.6, LISA Ed Pac, LISA Educational Package, Speed/ASM, Maxwell's Demon, and LUD are trademarks of Lazwerware.
Apple, Apple II, and Apple //e are trademarks of Apple Computer, Inc.

Circle HelpCard No.19

- Practical Peripherals Microbuffer] [

This driver also enables you to take full advantage of features in Apple Writer such as underlining and superscripting with your Epson printers. In addition it will work even with obscure and discontinued printers such as the Epson TX 80.

EASYTERM ///. Communication program enabling you to send files to and receive files from a remote computer directly or via modem.

INFONET. An information network software program written for novice to expert computer users. This program was designed for organizations who need a method of electronic communications between themselves and other computer users. This program will allow your Apple /// to act as an electronic bulletin board/message center. The program can accommodate over 1,000 users depending upon the amount of room on your disk drive.

PSCREEN. Allows printing of Apple /// text and graphics screens to an Epson or Apple's Silentype printer. It also comes with a demo program which allows you to print Apple /// Business Graphics screen files. SOSTRAN. Copies files from Apple] [format to Apple /// (SOS) format. Conversions include Applesoft and Integer BASIC to Apple /// Business BASIC. Images of the High Resolution graphics screen (also known as Foto or Picture files) can be converted between Apple] [and Apple /// format.

SOSTRAN can also list the catalog of any DOS 3.3, Pascal, or SOS disk, in case you forget the name of the files you want to transfer.

The documentation includes some of the best information I have seen for converting Applesoft programs to Apple /// Business BASIC.

Brock Software Products, Inc.
P.O. Box 799
Crystal Lake, IL 60014
(815) 459-4210

Brock Software's **Keystroke Database** is one of the most exciting pieces of software to be introduced for the ///. For those of you who have not seen it, I suggest you visit your dealer for a demonstration. It is a very powerful, easy-to-use database and report generator package.

Keystrokes features include:

- a logical menu structure; (menus appear as boxed windows over the current work screen)
- four user selectable key fields
- access to a 2nd file
- interface ability to Quickfile, PFS,
- read and write DIF compatible files
- up to 4096 characters per record
- 74 character maximum field width
- 90 fields per record
- copy data into and from all files

Interfacing data into and out of Keystroke to other Apple /// software is probably its most powerful feature. In the past other software developers and products have required you to reenter your data when moving from one application or data format to another. My personal feeling is that I enter information into the computer ONCE, and then use software to manipulate it. The Database retails for $249; The Report Generator for $149.

Keystroke will read a DIF file, your PFS and Quick File reports, so you don't have to reenter data.

Keystroke allows you to create your own function keys. Function keys, as I have previously mentioned, condense into one keystroke that would normally take several.

Quark, Incorporated
2525 West Evans, Suite 220
Denver, CO 80219
(303) 934-2211

Quark is an example of a company which is concentrating its development efforts on improving their software to take full advantage of specific machines, the Apple ///and //e, rather than trying to adapt their software to fit every new computer to come down the pike. Examples of this are their recently revised Word Juggler, Catalyst 2.0, Lexicheck and Discourse Spooler.

Catalyst 2.0, which enables you to have all of your application programs (Word Juggler, VisiCalc, Quickfile etc.) loaded onto your profile so you can easily switch between programs without rebooting, has made several enhancements to the program. Probably the most important is that it is virtually self-installing. It automatically performs the operations to install most of the popular programs, merely prompting you to put various boot diskettes into the inboard drive when necessary.

With Catalyst 2.0 you choose the program you want to run using the up and down arrow keys and then press return. A few seconds later the application you want is loaded into memory. The program has also been modified to work with the Micro-Sci A143 floppy disk drive. Previously the program required a hard disk drive.

Several software companies such a Brock Software Products, are now including "Quark.Install" with their software to make installation easy. With Quark.Install you merely insert into the built-in disk drive the program disks you want to put onto hard disk and follow the prompts on the screen.

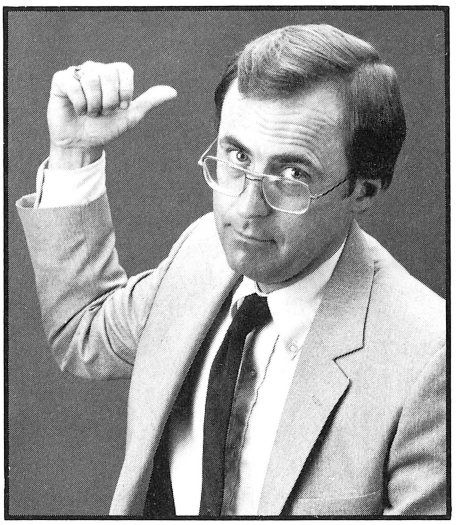
Previously, Catalyst users had to add every driver they would be using to the SOS.DRIVER file on the Catalyst Boot Diskette. For example, if you were using a graphics program such as Graph'N Calc and a communications program such as Access ///, the RS232 and the graphics driver would be using up some of your memory in the ///, even though you have no need for the RS232 driver when you are using Graph 'N Calc.

On the other hand, you have no need for the graphics driver when you are working using your modem with Access ///. Version 2.0 of Catalyst gets around this problem with dynamic drivers. These are drivers that are only loaded into memory as you need them for a particular program. In this example, the graphics driver for Graph'N Calc and the RS232 driver for Access ///.

Those of you currently using Catalyst with VisiCalc will appreciate getting the memory back for your large spreadsheets.

A new driver for profile is also included with Catalyst 2.0. It keeps the root directory of your profile in memory, which enables programs such as the Great Plains hard disk accounting system to store and access data faster on the profile.

SPEND 5 MINUTES WITH OUR ACCOUNTANT AND YOU'LL FIRE YOURS



Introducing **TIME IS MONEY.™**
A simpler, faster, more flexible personal accounting software package.

While people have been overjoyed by the prospect of having their very own personal computer accountant, so far they've been underwhelmed by the products. Some are too complicated; others are little more than toys; still others are too slow and rigid in format.

Finally what you hoped for in a personal computer accounting package, TIME IS MONEY delivers.

IT'S SIMPLER.

TIME IS MONEY uses no codes and no special accounting terminology. Simple checkbook balancing with a full statement on-screen.

IT'S FASTER.

TIME IS MONEY runs with machine language speed so there's instant access to any transaction or balance. No complex or tedious setup prior to use.

IT'S MORE FLEXIBLE.

TIME IS MONEY defines, changes or deletes categories and accounts at any time. It grows as your needs grow.

IT'S MORE POWERFUL.

Tracks up to 240 separate assets and liabilities. 240 types of income from 240 different sources. 240 expense categories with tax deductions.

And all you need is an Apple II, II+, //e, or compatible computer.

Find out why TIME IS MONEY is the best personal accounting software package on the market. Call or write for a data sheet today. Even better, visit your dealer and try it out for yourself.

If you have a spare 5 minutes.

TURNINGPOINT™ SOFTWARE

11A Main Street, Watertown, MA 02172 **(617) 923-4441**

©Copyright 1983 Turning Point Software, Incorporated
Apple is the registered trademark of Apple Computer, Inc.

Circle HelpCard No. 36

The **new version 1.4 of Discourse** will allow you to change the order in which your documents are printed out from the spool status. Additionally, the spool status will show you which program your document originated from, i.e. VisiCalc, AppleWriter, etc.. Word Juggler users will be able to spool documents four times as fast with the new version 1.4.

Additionally, in the event of power failure, Discourse will recover unprinted documents and requeue them for printing.

A very user friendly feature of this new version of Discourse is that it is completely self-installing. You merely boot the Discourse diskette and follow the prompts to insert your boot diskettes such as Catalyst, the program then deletes your old spool and spool status drivers and replaces them with the new versions. Sure beats fumbling around with the System Configuration Program.

Discourse, incidentally was the first piece of software to make extensive use of the interrupt capabilities built into the Apple ///.

Lexicheck has been updated to include a guess feature in which several words are presented in a window for selection as the correct word. An inverse bar you can move selects the proper spelling for the word you want to replace.

Microsoft
10700 Northrup Way
Bellevue, WA 98004
(206) 828-8080

MicroSoft recently introduced their spreadsheet **MultiPlan**, and yes, it runs native on the ///. Native meaning a bootable program that uses all of the power of the ///, and does not run in emulation mode, or require a CP/M card (Softcard ///).

Haba Systems
15154 Stagg Street
Van Nuys, CA 91405
(213) 901-8828

/// EZ Pieces, a new, integrated piece of software, along with its Apple version known as AppleWorks, is absolutely fantastic. Those of you familiar with Quick File will recognize the commands and ease of operation. The program was written by Rupert Lisner, who wrote Quick File.

Some features:

- /// E-Z Pieces is a fully integrated, easy to use Word Processing, Spreadsheet, and Data Base Management System designed exclusively for the Apple /// Computer. Once you've learned one part of /// E-Z Pieces, you've nearly learned them all. All modules use the same commands which are displayed on "HELP" screens when you need them. All commands are described in English, not in single character codes.
- With /// E-Z Pieces, word processing is truly easy, and there are no surprises. Text will be printed exactly as you've typed it. View imbedded print commands at the touch of a key. Insert, delete, and move letters, words, lines, sentences, and paragraphs by highlighting the appropriate text, and using simple commands. Find and replace words (or word strings) quickly and easily.
- /// E-Z Pieces contains all of the features of Quick File and then adds some more. Reports can be in either label or table format. Each record can contain up to 30 categories. Sort time is dramatically faster than other systems. (Approximately 15 seconds for 1500 records!) Plus, you can "cut and paste" information into your Word Processing files because /// E-Z Pieces is fully integrated!
- The spreadsheet capability of /// E-Z Pieces, up to 999 rows by 126 columns, handles the largest of spreadsheets. To enter larger headings or numbers, change column widths quickly with simple keystrokes. Automatically repeat formulas for relative columns or rows. It's E-Z and fast too. This spreadsheet reads files up to 8 times faster than VisiCalc!

I have been using it for several weeks without a manual (still at the printer), and find it to be a very powerful and easy-to-use program. The program with its extensive use of help screens enables you to start using the program productively without extensive reference to a manual. If you have used either VisiCalc or Quickfile it is even easier.

For ease of use the spreadsheet portion of the program is way ahead of VisiCalc. For example, when you start a spreadsheet you are prompted for the disk drive, pathname and filename the spreadsheet will be stored under. Then when you want to save it just press OPEN APPLE S. This sure beats entering /SS(DRIVE/PATHNAME/FILENAME) everytime you want to save a spreadsheet template.

Another plus for this program is that it can read the files created by the Apple version and vice versa. This is because the Apple version was written using ProDos the new operating system for the Apple and //e. This will enable those of you with a /// in the office and at home to work on the same files without making any DOS to SOS conversions.

Books

The *Apple /// Book*, by Osborne/McGraw-Hill, sells for $17.95. It should be more correctly titled Apple /// Business BASIC because over half of the book is devoted to Business BASIC. If you are looking for a tutorial on Business BASIC this book is it, very clear concise explanations and examples are included in the book.

Another recently released book for the Apple ///, *Using Apple Business Computers*, by Kenniston W. Lord, has an emphasis on Business BASIC from a beginners' point of view. The book evolves into a series of useful programs for the /// in a small business environment.

The program listings include:

- CHART, used to build the chart of accounts
- CUSTOMER, customer file for accounts receivable
- VENDOR, vendor file for accounts payable
- PRODUCT, rudimentary inventory control mechanism
- RECEIVABLE, Provides initial entry, invoice preparation, posting of account records, statements and aging
- INCOME, produces an income statement using prestored totals from the other files
- BALANCE, produces the balance sheet

WILDCARD™

Make back-up copies of protected software quickly, easily, with just a push of a button.

Now! Three different models of the leading copy card. One is right for you.

WILDCARD	**$109.95**
WILDCARD 2	**$139.95**
WILDCARD PLUS	**$169.95**

Wildcards are the copycards that stack the deck in your favor. Rather than copying protected disks track by track like the old "nibble copiers," Wildcards ignore the disk and any copy protection on it. Instead, Wildcards take a snapshot of your Apple's memory. This creates an accurate copy of the original program.

WILDCARD

Our original. Perfect for the Apple II + ® with 64K. Over 10,000 satisfied customers.

- Wildcard copies both 48K and 64K programs.
- Wildcard creates DOS 3.3 compatible, autobooting copies.
- 40 column text screen dump.
- Files can be placed on a hard disk.
- Wildcard Utility Disk (included) contains: Automatic program compression and BRUN filemaker, Applesoft recover program—makes locked up Applesoft programs listable. Print graphics screen.

WILDCARD 2

Designed for the Apple IIe® with 64K or 128K.

- Fast! Copies 64K programs in 25 seconds, 128K programs in 50 seconds.
- New, self-prompting software. Absolutely no technical expertise is required.
- Text screen dump has been enhanced to print 40 or 80 columns.
- Utility Disk is included for making BRUN files.



WILDCARD PLUS

The most powerful utility card you can buy for your Apple. A 6502 microprocessor makes Wildcard Plus the ultimate copy and utility card.

Copycard features:

- Lightning fast. Copies 64K software programs in 10 seconds, 128K software in 20 seconds. Copying software is simple, elegant and flexible.
- You can control the Apple's softswitch settings...

Utility card features:

- 4K of RAM on the Wildcard Plus is used to upload powerful Utilities from disk. These utilities include an enhanced monitor that allows you to make program changes and fix program bugs. Another is a screen dump of text and graphics. And more...

Order by phone, (212) 505-5470 or complete the coupon below and send your check, money order, Visa or MasterCard No. to East Side Software Co., 175 Fifth Avenue, Suite 3375, New York, NY 10010. Dealer inquiries welcome.

Please send (indicate quantity)

_____ **Wildcard(s) $109.95 each.** $_____

_____ **Franklin 1000/1200 owners require mod kit. $8.00** $_____
(For use with Wildcard only).

_____ **Wildcard 2(s) $139.95 each.** $_____

_____ **Wildcard Plus(s) $169.95 each.** $_____

In U.S. add $4.00 for shipping and handling.
Outside U.S. add $10.00. $_____

New York State residents add sales tax. $_____

☐ Check enclosed ☐ Visa ☐ MasterCard Total $_____

Card No. Expires

Name on Card

Name

Address (UPS delivery)

City State Zip Phone

East Side Software Co., 175 Fifth Avenue, Suite 3375, New York, NY 10010

IMPORTANT NOTICE: WILDCARDs are offered for the purpose of enabling you to make archival copies only. Under the Copyright Law you, as the owner of a copy of a computer program, are entitled to make a new copy for archival purposes only and the WILDCARDs will enable you to do so. WILDCARDs are offered for no other purpose and you are not permitted to utilize them for any other use, other than specified. Software is not copy protected.

System requirements: Wildcard: Apple II + w/64K, Apple IIe, Wildcard 2: Apple II, II+, IIe, Wildcard Plus: Apple, II, II+, IIe. All cards work with Franklin computers. An $8.00 mod kit is required for Franklin 1000, 1200 (for use with Wildcard only).

Wildcard, Wildcard 2 and Wildcard Plus are trademarks of East Side Software Co.
© 1983 East Side Software Co.

Dot Rodent

Well that's what I call it. The /// **Mouse**, (which is the same as the //e's mouse), was demonstrated with a soon-to-be-released graphics package. This program is extremely user-friendly. Within minutes first time users were creating all kinds of drawings and paintings on the RGB monitor. This program will be released some time in the first quarter of this year.

With this program you can zoom in to an individual pixel and change its color.

BASIC programers will be interested to note that the program is written in Business BASIC. When BASIC booted up with this program the version number was 1.23. Obviously Apple is still making improvements and enhancements to the language.

Quark and several other software vendors are modifying their software to use DOT RODENT.

Why do I call it DOT RODENT? As all Apple /// owners know, you have to precede all driver names with the period or dot and somehow dot mouse just doesn't sound appropriate for a driver name.

A New Z80 Card For CP/M Fans

Personal Computer Products, Inc.
16776 Bernado Center Drive
San Diego, CA 92128
(619) 485-8411

Called the **APPLI-CARD** /// it features a 6MHz Z-80B processor, and includes 64K RAM which can be expanded to 512K. Using on-board memory eliminates sharing the ///'s memory.

Hard Disk News

Apple is apparently getting out of the disk drive business (at least in the /// marketplace). The Apple /// division is actively encouraging hard disk drives from outside manufacturers that will work with the Apple ///. Some possible candidates:

Mountain Computer
300 El Pueblo Road
Scotts Valley, CA 95066

Has a line of hard disk drives compatible with the Apple ///. They are available in either 5, 10, 15, or 20 Megabyte capacities.

Also announced a 1/4" tape drive backup for the profile. This is interesting in that it has an Apple part number, which is another indication that Apple is at least looking to supplement their line of disk drives with those of outside manufacturers.

Santa Clara Systems
1860 Hartog Drive
San Jose, CA 95131

Hard Disk Systems with storage capacities ranging from 5 to 120 megabytes. They offer backup utilizing either high density eight inch floppies or removable cartridges. They have some networking products, but nothing for Apple products at the present time.

Space Coast Systems, Inc.
301 S. Washingtion Avenue
Titusville, FL 32796
(305) 268-0872

They feature a tape backup for hard disk drives, their own as well as Apple's profile. Their literature indicates that the tape backup runs three times faster when backing up their drives (90 inches per second), than with profile (30 inches per second). Their data transfer rate is evidently faster. I will have one of these drives for evaluation, and will compare it with profile for speed of data transfer in loading programs such as System Utilities and Keystroke, which are large pascal programs and take several seconds to load.

They are currently working with Quark to make their drives compatible with Catalyst.

Davong Systems Inc.
121 Humboldt Court
Sunnyvale, CA 94089

In addition to a line of hard disk drives which are compatible with the Apple ///, they are considering adapting their networking system to work with Apples.

It is encouraging to see that other manufacturers of hard disk drives are taking an interest in the Apple ///, and the Apple /// marketing team is actually encouraging this. This attitude did not exist at Apple six months ago. It is a welcome change.

Printer Card

Wesper Micro Systems
14321 New Myford Road
Tustin, CA 92680

Wesper Micro Systems introduced their **BPO** /// serial and parallel, buffered printer card for the Apple ///. This card enables you to have a separate serial port for your printer, freeing your RS232 port for your modem. This eliminates switching cables whenever you want to change from printing to telecommunications.

The BPO /// comes with 8K (over 8,000 characters) of buffering, which you can increase to 128K.

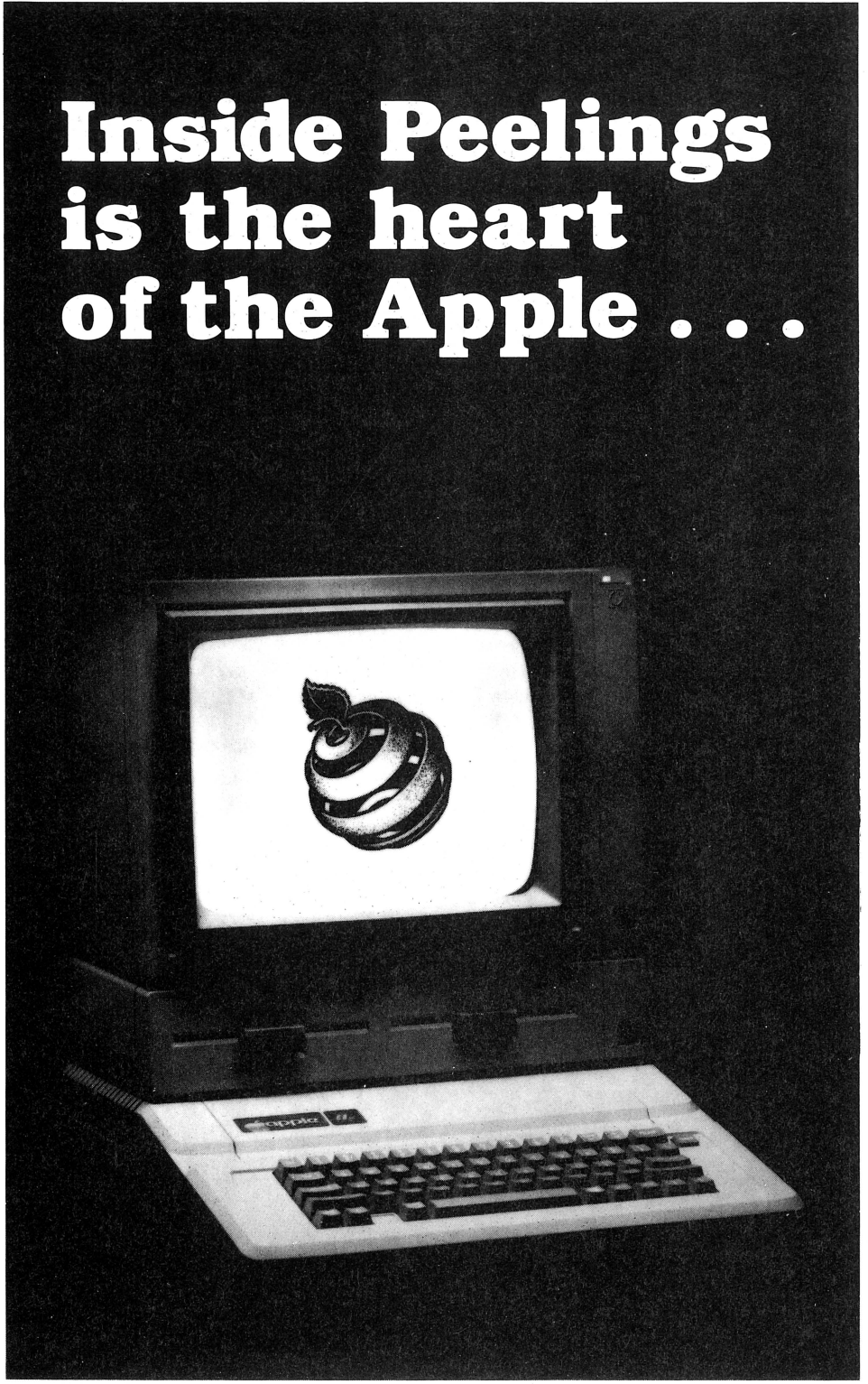
Special software selectable features include: software selection of Serial or Parallel printer, data compression to enhance buffering capacity, text formatting, auto line feed generation, and multiple copies ability.

Also available is an external switch which enables you to make multiple copies, pause, and reset the buffer.

Editor's Note: Don Norris is president of the Business Apple Group. His newsletter, the Open Apple Gazette, is filled with information about Apple /// products. The back issues contain a wealth of "how to" information that I found very helpful when getting started with my Apple ///. Seven back issues are available and can be purchased from:

Business Apple Group
1850 Union Street, #494
San Francisco, CA 94123
(415) 921-3774

Inside Peelings is the heart of the Apple . . .

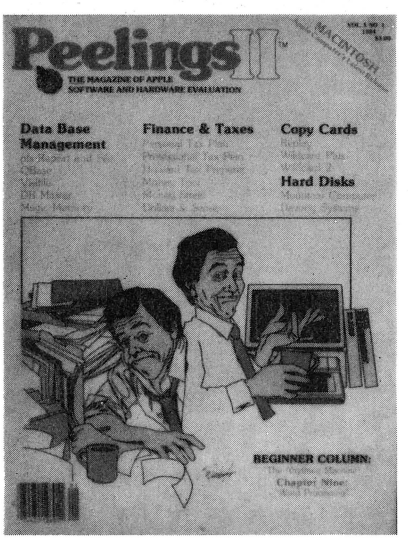


You deserve the inside track on products for your Apple. Trial and error is no way to buy software and neither is asking your best friends. Important product decisions should be based on facts and plain English analysis of Apple products from professionals who take the time to do it right. Peelings II gives you the facts so you can avoid costly mistakes and make the right decisions.

Here's what you get in every issue—

- **The real story** on major software and peripherals.
- **Product ratings** according to standards that are updated and reviewed as technology changes.
- **Tutorials, glossaries** and **comparison charts.**
- **Columns** featuring popular topics—business, education, word processing and more.
- Latest **products** & **industry** news.

Get to the heart of your Apple. Subscribe to Peelings II — the ultimate Apple consumers' guide.



Please ☐ **E**nter ☐ **R**enew my subscription for 1 year (9 issues)

USA ($21) • US 1st Class, Canada, Mexico, APO & FPO ($36) • South America & Europe ($48) • All Other Countries ($57) Sample Copy USA ($4) • Elsewhere ($6)

☐ Payment Enclosed ☐ Bill Me
☐ VISA ☐MasterCard

Card No._____ Expires_____

Signature_____

Name _____

Address _____

City_____ State_____ Zip_____

Payment must accompany all foreign orders, be in US funds and drawn on US bank — make checks payable to:

PEELINGS II, Inc., P.O. Box 699, Las Cruces, NM 88004
Or call Toll-free: 1-800-345-8112
(in Pennsylvania: 1-800-662-2444)

AOR0584

Peelings II™
THE MAGAZINE OF APPLE SOFTWARE AND HARDWARE EVALUATION

Circle HelpCard No.23

ROUTINE MACHINE

Review
by Gary Bettes

The **ROUTINE MACHINE** ($64.95), by Southwestern Data Systems, is an Applesoft programming utility for Apple II, II Plus, and //e computers. This utility attaches machine language subroutines to an Applesoft basic program. These routines may be invoked by either using an ampersand (&) command or by calling the starting address of the routine.

Included with the ROUTINE MACHINE are several subroutines which may be used. Available as separate packages are additional subroutine libraries (priced at $49.95 each), or you may write, borrow or otherwise acquire routines to be used.

There is only one restriction as to which subroutines may be used. The routine must be "fully relocatable" in memory. Any routine which can be called from a running Applesoft program or is invoked using the ampersand will usually be usable without modification.

The ROUTINE MACHINE is very easy to use, even with little knowledge of machine language. When you install the program, it relocates your basic program up in memory to HEX 2600 and installs itself at HEX 800. With the utility installed your Applesoft program will overwrite Hi-Res Page One in memory. With any program using Hi-Res Page One in any manner you will have to remove the ROUTINE MACHINE first. This is not a major problem, however, as it is not required to be in memory to run your modified program, and it is easily removed by BRUNning the REMOVE ROUTINE MACHINE (provided on disk). This will remove the ROUTINE MACHINE and relocate your basic program to HEX 800. Provided your program does not use Hi-Res Page One, you may test run your program with the program still aboard. Included functions allow the user to append and delete subroutines, build a disk library of routines, search for calls and ampersands, inspect Applesoft program lines and display a memory map. Due to the location used by the ROUTINE MACHINE, it is fully compatible with both **APPLESOFT COMMAND EDITOR** and **PROGRAM LINE EDITOR** by Southwestern Data Systems. Any number of subroutines may be appended with the only limit being the amount of memory available in your computer.

The supplied disk comes with a modified DOS. There are only two changes from DOS 3.3. The first is an option on the catalog listing to terminate the listing at a pause by pressing return. The second is to add to the volume number heading on the disk catalog the number of free sectors on the disk being cataloged. These features may be added to other disks by booting the ROUTINE MACHINE disk then initializing the new disk with the modified DOS.

The documentation provided is professionally presented and well written. In addition to the use of demonstration programs and instructions that even a computer novice can understand, the manual contains information on how to write your own subroutines so they will be compatible with the ROUTINE MACHINE. On the disk there is a resident copy program. This will allow you to make three copies of the program disk. In addition to this many of the files on the disk may be copied using the FID program from the DOS 3.3 system master. This is an excellent copy protection system. It allows for human error while still providing relative security for both software vendor and user.

For beginning and intermediate basic programmers this is an extremely useful utility. It adds much needed flexibility to Applesoft basic. Most of the advanced programmers are already using many of these techniques to enhance the ability of their computers.

Two of the subroutine libraries available for the ROUTINE MACHINE are &-CHART and &-ARRAY. Other libraries include &-SCREEN and &-SAMPLER.

&-CHART is a graphics utility which may be used with or without the ROUTINE MACHINE package. This utility allows you to draw your graphs on an extremely large coordinate system, then display a window of the large grid. You may draw x-y coordinates with values or complete grid lines with values as a part of your graph. These are drawn using few commands. Your graph may be enlarged or reduced using simple commands. This is an extremely useful utility for combining graphic output with your Applesoft programs.

&-ARRAY is a utility for easy use and manipulation of arrays. This utility allows you to redimension arrays, search, sort, swap elements and otherwise use arrays not allowed in Applesoft basic. This utility may be used either with or without the ROUTINE MACHINE package.

In all, these software packages are very useful and very well documented. Each one of them is easily worth the purchase price.

(Editor's Note:

Southwestern Data Systems has changed its title, and can now be reached as Roger Wagner Publishing, Inc., at:
10761 Woodside Avenue Suite E
P.O. Box 582 Santee, CA 92071
(619) 562-3221)

WORK FORCE II

by Core Concepts

Review by Gary Bettes

WORK FORCE II is a collection of six programs which will run on Apple II, II+ or //e computers with DOS 3.3 and 48K ram. Four of these programs are financial. **THE LOAN ANALYZER** and **THE SAVING ANALYZER** calculate loan amortization and future value of savings. **THE WAGE ANALYZER** will figure wage adjustments by amount or percentage and calculate monthly and yearly amounts. **THE BALANCING ACT** is a checkbook balancing program. The remaining two programs are function-type programs. **THE CALCULATOR** causes your Apple to become a printing type calculator with percent and memory. **THE LINE WRITER** is a one line at a time text editor.

All six programs are well written. The menus and screen prompts are easily understood and I found no bugs in any of the programs. The only problem with this package is that each of these concepts is available on public domain software. I find it difficult to pay $29.95 for software when similar software is available for free. Had CORE CONCEPTS provided a connection between the programs, the price would be justified. Being able to pass information from one program to another or just call a program from within another program would add a lot of flexability to the system. It would be nice to be able to turn your Apple into a calculator while running a checkbook balancing program and not lose your checkbook data.

I feel that in lieu of purchasing WORK FORCE II, you should use your money for memberships dues in you local Apple computer users group. With the public domain software availability through the I.A.C., you will get more for your money.

From Screen to Paper *at the Touch of a Button*

The new Apple * compatible printer interface card from Texprint literally unleashes your system's power for fast, easy printouts of *any* screen, at *any* time, with *any* program — in color and black & white.

Push the red button that comes with PRINT-IT!™ – Your program pauses instantly; touch RETURN and whatever is on your screen text, graphics or both, is printed in color or black & white.

Whether your Apple II, II+, //e or "lookalike" is for business or pleasure, you'll want the ability to pause and take snapshots of your screen displays and then continue from exactly where you paused, all at the touch of a button – games, business data, menus, educational instructions, graphics – even CP/M**. PRINT-IT! will print your screen at any time no matter what program you're running, as well as perform every function you expect of an intelligent printer card.

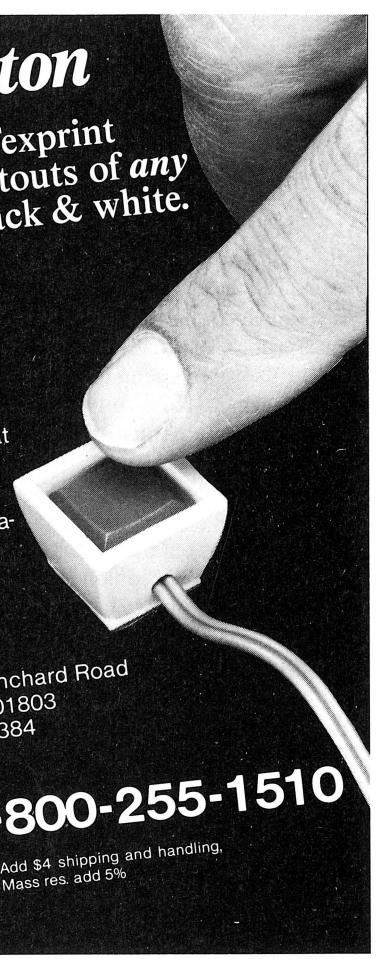
PRINT-IT! supports:
- Graphics – Low, high and double high resolution
- Text – 40 column as well as Apple //e and Videx*** 80 column cards
- Printers – All of the most popular printers, including color, are easily selected with a dip switch

At your local computer store PRINT-IT! retails for $299. Now, for a limited time, you can purchase PRINT-IT! direct from the factory for just $179.

For those whose budget can't accommodate the push button pause/print feature, Texprint's Model 2 (with most PRINT-IT! functions) is your best choice at a special introduction price of $99 (Retail $174).

PRINT-IT! is backed with a 30 day unconditional guarantee. Qualified educational and dealer discounts available.

* ™Apple Computer
** ™Digital Research
*** ™ Videx, Inc.



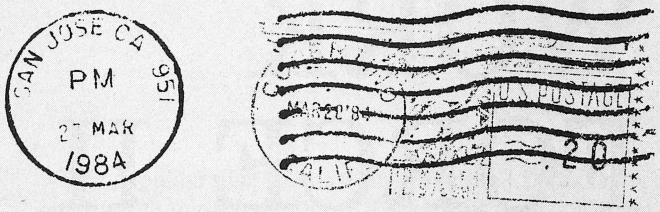
TEXPRINT

Dept. 1 8 Blanchard Road
Burlington, MA 01803
Tel. (617) 273-3384

To Order
Call Toll Free 1-800-255-1510

Add $4 shipping and handling, Mass res. add 5%

Circle HelpCard No.34



THE Mail Order Dilemma

by Mike Wendland

With the tremendous popularity of computers and accessories, new computer shops are popping up in just about every neighborhood in every town. And the computer magazines are getting fatter and fatter, almost to the point of being books, thanks to the heavy advertising of the mail order computer companies.

Inevitably, then, even the casual computer enthusiast is someday going to be faced with the dilemma of where to buy, the local retail store or the mail order company.

Not surprising, there is growing animosity between the two sides. Apple and IBM, for example, make their authorized retail dealers sign an agreement promising not to sell their computers through the mail. One reason, of course, is to avoid cost-cutting wars. But another is to assure quality control in sales and service.

At stake in the competition between the over-the-counter retailer and the mail order houses are millions of dollars in revenue. But caught up in the name-calling and the heavy advertising hype is the computer user. He really wants to buy more equipment. Surveys show the average first year computer user will spend an average of $800 *after* buying his starter system. He'll buy software, printers, monitors, peripheral cards, books, discs and dust covers.

Slugging it out for his business are the neighborhood dealer and the order-taker at the end of the cross-country toll free line.

Both areas have problems. The local retailer boasts of ready service and plenty of user support. But often, he lacks selection and is less inclined to deal. The mail order dealer has discount pricing and incredible selection. You name it, they have it. But when it comes to support and service, that's often another matter.

Shopping the mail order firms can be both convenient and frustrating. It's convenient because you never have to leave your house. Thanks to toll free numbers, beginning with an 800 prefix, the at-home shopper need do nothing more strenuous than dial the telephone and ask for price information.

That's if you get through.

For the frustrating part is that it is often difficult to get through to some of the big mail order computer dealers. There are two firms, one in Oregon and one in Pennsylvania, that I never was able to reach in my shopping-by-phone research. Their toll free numbers were tied up for hours each time I called. And I called over a several day period.

Such problems are common. Indeed, at some of the big houses it's unusual to have the number actually ring on the first or, often-times, even the second try. That's because the advertisements of some houses are geared almost exclusively to persuading would-be buyers to call in for a quote. Perhaps the most flagrant example is a half-page ad recently taken out by a mail order house that boasts of low prices, stating, "We Don't Play Games."

Thereupon the ad lists 100 items offered for sale, ranging from computers themselves to peripherals and accessories. But of those 100, only seven have prices. If you want to find out how much a listed item costs, you have to call the company. And this firm doesn't even have a toll free number. This isn't game playing?

Reading the ads from the various mail order houses is entertainment in itself. Cliche-filled claims of **"rock bottom prices... fantastic savings... lowest prices ANYWHERE!... Save up to 40%... The Best for Less"** shout out from boldface type. But how good are the deals? To find out, we decided to shop ten of the big mail order firms. For comparison, we sought price quotes for an Epson RX-80 dot matrix printer.

The results were interesting and varied. The highest price quoted was $389. The lowest price beat that by more than $100, offering the same printer for $270. In between, four companies quoted a price of $299, two asked $310 and two asked $319.

When we called the nine higher-priced companies back and asked them if they would meet or beat the $270 price, as many of the mail order house ads claim, three said they would, three offered to come down a bit but not to the $270 figure, two refused to lower their price and one disputed our honesty. "Either he's nuts to sell that low or you must think I'm nuts to believe you," said the suspicious mail order

APPLE® MODEM. WITH EVERYTHING.

Now including a valuable subscription to THE SOURCE℠ AMERICA'S INFORMATION UTILITY

$129

THE NETWORKER™ MODEM

Your best buy in modem history. The **Networker**™, a plug-in single-slot direct connect modem for the Apple II family of computers. Send electronic mail to a friend or business associate, use your school's computer, access hundreds of computer bulletin boards or thousands of data bases for up-to-the-minute news, sports, weather, airline, and stock information.

There's absolutely nothing else to buy. You get the modem board, communications software, and a valuable subscription to America's premier information service, THE SOURCE℠. For $129 it's an unbeatable value.

This is the modem that does it all, and does it for less. The Apple Communications Card is on board, so no other interface is needed. It's 300 baud, the most commonly used modem speed. And it comes complete with **Networker** Communications Software on an Apple-compatible disk, giving you features **no** modem offers.

Networker Communications Software is an easy to use terminal program that turns your computer into a communications command center, with on-screen "help" menus, continuous updates of memory usage, carrier presence, and communication status. Even a beginner can be communicating in seconds.

The **Networker** supports both originate and answer modes, so you can send and receive information, in full or half duplex modes. Just plug it into any slot in your Apple computer, and then into your phone jack. Now you're part of a vast network of computers.

NETMASTER™ COMMUNICATIONS SOFTWARE

For $179 we include with the **Networker** our **Netmaster** Communications Software for advanced users. **Netmaster** will let you transfer games, computer graphics, programs, sales reports, documents—in fact, any Apple file of any size—to another computer, directly from disk to disk, without errors, even through noisy phone lines.

For transfering information between computers, **Netmaster's** superb error checking and high speed are an unbeatable combination. With a **Netmaster** on each end, you can transfer information three to five times faster than other communications packages like Visiterm™ or ASCII Express™. Error free.

But **Netmaster's** not stuffy. It will talk to those other communications packages. It's just that they don't work as fast and they don't check errors like **Netmaster.** And **Netmaster** doesn't only work with the **Networker** modem. Even if you already have another modem for your Apple, **Netmaster** is an outstanding value in communications software, so we sell **Netmaster** by itself for $79. **Netmaster** requires 48k of RAM, one disk drive, and the **Networker** or another modem. It can also be used without a modem when two Apples are hard-wired together.

THE SOURCE℠

Your purchase of the **Networker** with or without **Netmaster** comes complete with a membership to THE SOURCE, with its normal registration fee fully waived. THE SOURCE will put a world of electronic information and communication services at your fingertips—instantly. Electronic mail and computer conferencing. Current news and sports. Valuable business and financial information. Travel services. A wealth of information about personal computing. Even games. All fully compatible with your equipment, and ready to use at once.

Networker, Netmaster, and **Networker/Netmaster Combo** are all produced in the USA by ZOOM Telephonics, producers of the popular **DEMON DIALER.** The Networker is FCC registered, and all products come with a one-year warranty.

HOW DO I GET ONE? OR TWO?

Ask your computer dealer, or call one of our sales offices listed below for the dealer nearest you. Or call us direct at 1-800-631-3116, and we'll tell you where to get one.
(In Massachusetts, call 1-617-423-1288.)

SALES OFFICES

Boston, MA (617) 329-4292; **Metro New York** (914) 834-5555; **Philadelphia, PA** (215) 638-4350; **Pittsburgh, PA** (412) 276-3310; **Washington, D.C.** (301) 942-4900; **Atlanta, GA** (404) 876-2288; **Miami, FL** (305) 945-8844; **Rochester, NY** (716) 385-6266; **Dayton, OH** (513) 890-5159; **Cleveland, OH** (216) 779-4435; **Chicago, IL** (312) 234-5911; **Minneapolis, MN** (612) 944-8640; **Lenexa, KS** (913) 541-1411; **Dallas, TX** (214) 747-0081; **Denver, CO** (303) 744-2323; **Salt Lake City, UT** (801) 486-2346; **Phoenix, AZ** (602) 265-9201; **Los Angeles, CA** (213) 949-9405; **San Francisco, CA** (415) 579-6561; **Portland, OR** (503) 292-3585; **Redmond, WA** (206) 881-8778.

ZOOM Telephonics, Inc.
207 South Street, Boston, MA 02111

The following are trademarks: Apple by Apple Computer, the Source servicemark by Source Telecomputing, Visiterm by Visicorp, ASCII Express by Southwestern Data Systems, DEMON DIALER by ZOOM Telephonics. © 1983 ZOOM Telephonics, Inc.

dealer before hanging up.

But those were just base prices. All of the mail order businesses charged extra for shipping, typically $13 to $18. Most charged an additional three or four percent, or around $10-12, for using a bank credit card. And a couple of the firms wanted an extra $2 for insurance. Delivery was promised in from five to seven days though for $10 to $15 more I could get express shipment that would send the printer to me in three days.

As a general rule, the admittedly unscientific survey found about $25 in those extra charges were tacked on to the initial prices quoted for the printer. That brought the price range from $305 to $414.

Next, we shopped the computer retail stores. We spot-checked five local stores that carried the RX-80 and found prices amazingly comparable to the mail order houses.

Two of the firms were extremely expensive, one sold the printer for $390. The other wanted $399. Neither would budge on their prices.

But the big surprise came from the remaining local retail outlets. Two sold the RX-80 for $299. The last one and the cheapest offered the printer for $295. And that store offered to give me a "preferred customer card" that would get me a 10 percent discount on any other future purchases.

Although there was no shipping, insurance or credit card charges from the local firms, sales tax was added on. My state charges four percent. Thus, the price range for the printer from my local retail stores was $306 to $416.

The bottom line: we could have saved $1 by purchasing the printer from a mail order house. But we would have had to wait as long as a week.

And what if the printer didn't work or broke soon after we hooked it up to our Apple //e?

That, say the experts, is the big question.

"We're dealing with high tech equipment here," says Tom Pointe, the vice president in charge of sales for the nationwide Inacomp Computer Center chain. "And fixing it isn't an easy task. When it's broken and ordered through the mail, no regular retail shop is going to touch it. So you have to send it back to the mail order dealer you bought it from. And then you're often talking about weeks before you get the equipment back - - - weeks in which your money is sitting in the mail order dealer's bank account gathering interest while you're sitting back home waiting to use the equipment you paid for long before."

Mail order businesses scoff at the claims.

"That's typical retail store baloney," counters Brian Flynn, the operations manager for Computer Components Unlimited, one of the big computer mail houses. "This stuff is reliable and factory tested. It's rare that it breaks down. Even when it does, all the customer has to do is send it back and in nine times out of ten, we'll have a brand new replacement unit out in the next day's shipment."

Though Pointe and Flynn obviously differ, and differ strongly, about the best place for the user to order his gear, the two highly successful firms they work for have almost identical histories. Both are known as "garage stories."

They are called that because both companies began in a garage. In Pointe's case, his Inacomp Computer Centers began in 1976 in the suburban Detroit garage of Rick Inatone, who was then just 22 years old. Inatone started his business by cashing in a $5,000 life insurance policy owned by his father and selling computers to his neighborhood friends. Today, eight short years later, his company operates more than two dozen over-the-counter retail stores coast-to-coast and last year did more than $40 million in business.

Across the country in a suburb of Los Angeles, Computer Components had an almost identical beginning, starting out in the garage of Kirk Frantz, the firm's 21-year-old President. Today, four years after Frantz and Flynn set up their first toll-free order line, they operate out of a 2,300-square-foot operation in Hawthorne, California. Last year, the firm sold almost $20 million worth of computer equipment, almost all sent out through the mail or by a parcel delivery service as a result of orders phoned in to the firm's four toll-free WATTS lines.

"To tell you the truth," says Flynn, "sometimes we kind of miss the old days back in Kirk's garage. Then we weren't so busy. We'd spend most of the day out in the driveway playing basketball, waiting for the phone to ring."

Flynn says most computer shoppers have little to fear from reputable mail order houses.

"Just like anything else, there are some bad actors. But if you take the time to ask questions and find a dealer that has a good track record, you're not going to have any problems. And you will save money. I'd say most mail order dealers sell their products for 20 to 30 percent off retail prices."

Flynn is one of the few dealers that sells Apple computer systems by mail.

"Apple prohibits its authorized dealers from selling through the mails," he says. "But I'm not an authorized dealer. What I do is buy my computers from an authorized dealer who is overstocked. He sells to me at his cost or a percent or two more and I can then mark it up another couple points and still offer it cheaper than most retail shops. We can operate on a very low markup because we do so much volume."

Still, our own independent survey showed some potential mail order pitfalls. Shopping carefully is the key to success. For example, one mail order firm that promises the **"Lowest Prices Anywhere!"** says it can do so because it has **"no repair service"** and **"no support."** That may be fine if price is the only consideration. But computers and peripheral accessories do, with unfortunately predictable regularity, break down. Before phoning in your order, ask yourself: Is a dealer who openly advertises that he provides "no support" or repair service the right choice for complicated computer equipment costing hundreds, even thousands of dollars?

And be sure to carefully inquire about warranty work and guarantees. A large mail order firm in California notes in its advertisement that satisfaction is guaranteed. But in the fine print of his ad, you'll notice that the guarantee is for 30 days. Most over-the-counter retailers and even many of the mail order houses offer standard 90-day computer and parts guarantees.

"The story we hear over and over from the mail order buyer is that he didn't get what he needed," says Inacomp's

Tom Pointe. "He may have saved $40 or $50 on, say, an interface card but when it came in, there was no cable. Naturally, the customer thought the cable came with it. But it didn't and now he's trying to buy one from us. No retail store is going to sell him just a cable. We sell the card and cable in packages. So he has to go back and now order a cable from the mail order house and spend much of the $40 or $50 he thought he'd saved in the first place."

All this is not to say that mail order houses should be avoided. Indeed, there are many times when buying through the mail or over a toll free telephone is the smart thing to do. "If you know exactly what you want and need," Pointe concedes, "there are times you can save money from a mail order dealer. But most customers aren't that expert. They really need someone to walk them through. There are so many variables when it comes to buying a computer system. Our job in the retail end is to point that out to the customer and show him the alternatives. Often, we save him from buying stuff he really doesn't need. And then we're around when he has questions or problems or needs training. Those kind of intangibles are impossible to put a pricetag on and they sure aren't available from a faceless voice at the end of a toll free telephone number."

Jacqueline Petro is an avid Apple II Plus user near Detroit. She is active in the Michigan Apple Club and has guided many a newcomer into the world of personal computers. She is also a frequent mail order buyer. When she was looking for a 16K card for her II Plus she shopped the local retail outlets.

"I couldn't find one anywhere for under $100," she said. "But I found a mail order house that shipped me one for $59. I've been using it for well over a year now and I couldn't be happier. That $40 savings came in handy."

When, a few weeks after buying the 16K card, she looked around for the popular adventure game Wizardry, the local stores sold it for around $50. She bought it through a toll-free number for $42.

"And then there was this cookbook program I wanted," she recalls. "I checked out every store within a fifty mile radius and nobody had it or even knew when they would get it. I found it advertised in a computer magazine by a mail order company and sent away for it. Right now, I'm having the same problem with a casino game my family wants. We would prefer to buy it locally but it looks like I'm going to have to go through the mail order catalogues again."

But Mrs. Petro also does lots of buying at retail computer stores. "It's a trade off," she says. "There are some items, like a printer or a monitor, that I want to examine and test out before I plunk down my money. So I wouldn't dream of buying them through the mail, sight unseen."

But she says then there are other items - - - software, interface cards, ribbons, modems and other less complicated devices - - - that, because she has researched her needs and knows her products, she would not hesitate to order over the telephone, especially when she can save money.

"I've found there are good retailers and mail order dealers and there are bad ones. And there are good deals and bad deals. It just takes some careful shopping and a little common sense to know the difference."

Now you can monitor and control the world (or at least your part of it) with a little help from

APPLIED ENGINEERING

12 BIT, 16 CHANNEL, PROGRAMMABLE GAIN A/D

- All new 1984 design incorporates the latest in state-of-art I.C. technologies.
- Complete 12 bit A/D converter, with an accuracy of 0.02%!
- 16 single ended channels (single ended means that your signals are measured against the Apple's GND.) or 8 differential channels. Most all the signals you will measure are single ended.
- 9 software programmable full scale ranges, any of the 16 channels can have any range at any time. Under program control, you can select any of the following ranges: ±10 volts, ±5V, ±2.5V, ±1.0V, ±500MV, ±250MV, ±100MV, ±50MV, or ±25MV.
- Very fast conversion (25 micro seconds).
- Analog input resistance greater than 1,000,000 ohms.
- Laser-trimmed scaling resistors.
- Low power consumption through the use of CMOS devices.
- The user connector has +12 and -12 volts on it so you can power your sensors.
- Only elementary programming is required to use the A/D.
- The entire system is on one standard size plug in card that fits neatly inside the Apple.
- System includes sample programs on disk.

PRICE $319

8 BIT, 8 CHANNEL A/D

- 8 Channels
- 8 Bit Resolution
- On Board Memory
- Fast Conversion (.078 ms per channel)
- A/D Process Totally Transparent to Apple (looks like memory)

The APPLIED ENGINEERING A/D BOARD is an 8 bit, 8 channel, memory buffered, data acquisition system. It consists of an 8 bit A/D converter, an 8 channel multiplexer and 8 x 8 random access memory.

The analog to digital conversion takes place on a continuous, channel sequencing basis. Data is automatically transferred to on board memory at the end of each conversion. No A/D converter could be easier to use.

Our A/D board comes standard with 0, 10V full scale inputs. These inputs can be changed by the user to 0, -10V, or -5V, +5V or other ranges as needed.

The user connector has +12 and -12 volts on it so you can power your sensors.

- Accuracy; 0.3%
- Input Resistance: 20K Ohms Typ

PRICE $129.00

A few applications may include the monitoring of • flow • temperature • humidity • wind speed • wind direction • light intensity • pressure • RPM • soil moisture and many more.

SIGNAL CONDITIONER

Our 8 channel signal conditioner is designed for use with both our A/D converters. This board incorporates 8 F.E.T. op-amps, which allow almost any gain or offset. For example: an input signal that varies from 2.00 to 2.15 volts or a signal that varies from 0 to 50 mV can easily be converted to 0-10V output for the A/D.

The signal conditioner's outputs are a high quality 16 pin gold I.C. socket that matches the one on the A/D's so a simple ribbon cable connects the two. The signal conditioner can be powered by your Apple or from an external supply.

FEATURES

- 4.5" square for standard card cage and 4 mounting holes for standard mounting. The signal conditioner does not plug into the Apple, it can be located up to ½ mile away from the A/D.
- 22 pin .156 spacing edge card input connector (extra connectors are easily available i.e. Radio Shack).
- Large bread board area.
- Full detailed schematic included.

PRICE $79.00

DIGITAL INPUT/OUTPUT BOARD

- Provides 8 buffered outputs to a standard 16 pin socket for standard dip ribbon cable connection.
- Power-up reset assures that all outputs are off when your Apple is turned on.
- Features 8 inputs that can be driven from TTL logic or any 5 volt source.
- Your inputs can be anything from high speed logic to simple switches.
- Very simple to program, just PEEK at the data.
- Now, on one card, you can have 8 digital outputs and 8 digital inputs each with its own connector. The super input/output board is your best choice for any control application.

The SUPER INPUT/OUTPUT board manual includes many programs for inputs and outputs. A detailed schematic is included.

Some applications include:
Burglar alarm, direction sensing, use with relays to turn on lights, sound buzzers, start motors, control tape recorders and printers, use with digital joystick. **PRICE $69.00**

Please see our other full page ad in this magazine for information on Applied Engineering's Timemaster Clock Card and other products for the Apple.
Our boards are far superior to most of the consumer electronics made today. All I.C.'s are in high quality sockets with mil-spec. components used throughout. P.C. boards are glass-epoxy with gold contacts. Made in America to be the best in the world. All products compatible with Apple II and //e.
Applied Engineering's products are fully tested with complete documentation and available for immediate delivery. All products are guaranteed with a no hassle three year warranty.

Texas Residents Add 5% Sales Tax
Add $1.00 If Outside U.S.A.

Send Check or Money Order to:
APPLIED ENGINEERING
P.O. Box 798
Carrollton, TX 75006

Call (214) 492-2027
7 a.m. to 11 p.m. 7 days a week
MasterCard, Visa & C.O.D. Welcome
No extra charge for credit cards

Exploring Pascal on the Apple Two

"An Unexpected Feature"

by John B. Matthews, M. D.

One of the simplest and most convenient ways to use Microsoft BASIC is as an immediate mode calculator. Applesoft is a flavor of Microsoft's ubiquitous BASIC and the Applesoft Reference Manual (chapter 1) describes the use of commands available in immediate mode. It is thus perfectly legal to type "?2+2" and the computer correctly responds with "4". The question mark is an abbreviation for the PRINT command.

It is also possible to save intermediate results in named variables. Thus, if you enter "PI=3.14159", then typing "?PI*5 ∧ 2" will print the area of a circle of radius 5. I often use this method to verify an account ledger by entering "B=<current balance>" then "B=B-<debit amount>:?B" to print a running balance.

It may seem silly to use a kilo-buck computer as a calculator but it's even more silly to spend money or time on software you don't need. Conversely, even the tiniest BASIC interpreter often has immediate mode execution; this makes a Timex/Sinclair ZX-81 almost useful.

So where's the Unexpected Feature? Read on.

My computer spends most of its time running Apple Pascal and I am loathe to boot DOS just to calculate. Pascal is a compiled language rather than an interpreted language so it has no immediate mode. To fill the gap, Apple thoughtfully provides a program named APPLE3:CALC.CODE and describes its operation in the Apple Pascal Operating System Reference Manual (chapter 8, page 216). They mention that it is "...a VERY simple calculator capable of four functions only." The documentation goes on with a short tutorial and several numeric examples but there is no mention of named variables for intermediate results.

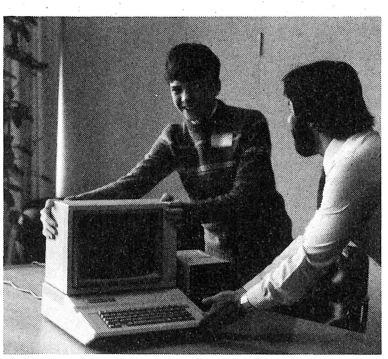
Back at the drawing board, a quick review of parsing algorithms and stack oriented expression evaluation suggested that I should quit while I was ahead. All else failing I executed CALC anyway and, by Wirth, the program correctly identified named variables up to eight significant characters. Try it!

The calculator always prints its last result so no PRINT command is needed. Entering "PI=3.14159" saves the value of PI for subsequent use while "TWOPI=2*PI" saves 2*PI. Typing "TWOPI*5" prints the circumference of a circle of radius 5. The results are in scientific notation with 6 significant digits. Arbitrarily nested parentheses are permitted; I gave up after getting correct results at 20 levels. There is no doubt some limit to the number of variables permitted; I quit after 30 unique identifiers. Entering a previously undefined identifier produces an appropriate error message. Not bad for a freebie!

Now, if they would just publish the source code.

"SLAVE"

The idea that paid off



by Lenore Wolgelenter

For Declan McKeown, a 14 year old from Downpatrick, Northern Ireland, the payoff included the following:

- a trip to Cupertino
- a brand new Apple //e, with disk drive and monitor.
- an introduction to Steve Wozniak.
- a visit to the Apple company store.
- a tour of San Francisco.
- a tour of the Stanford University campus, in Palo Alto, California.
- a trip to Disneyworld, Epcot Center in Orlando, Florida.

Declan's Mom was also pleased with her son's efforts as she had the opportunity to accompany him on his American adventures.

The Sunday Observer, a newspaper in Northern Ireland, ran a contest in which the participants had to answer five questions. Declan does not remember the questions, but he claims that they were really easy. Evidently nine other people thought that the questions were easy, too; there was a sixth question to break any tie and win the prize. The tie breaking question, for a final winner, was to name a brand new computer. The key parameter was that the name had to be an acronym. Declan's winning answer was "SLAVE" - Sophisticated, Logical, Advanced, Versatile, Electronics.

Back home, Declan spends between one and two hours each day with his home computer. He mainly programs and plays his own games. In school he uses a computer and is waiting to return with his new Apple. His friends are also anxiously awaiting his return.

Congratulations Declan! We know that you will put your Apple successsfully through its paces.

Foreign Language Word Processing with Screenwriter II

By Ed Haymes

The general rush to get word processors working on the Apple has left us with many different programs, each of which has its strengths and weaknesses. None of the programs, however, has specifically addressed the problem of the special requirements of foreign languages. As a college German teacher, I have found this situation more than a little frustrating and have set out to remedy it for my own purposes. Naturally, I have concentrated on providing German characters, but the general principles would apply to any language. I now have German language display on my screen and German printout with both an Epson and a Diablo printer. I have found the road anything but straight and well-traveled, so I thought it might be of use to other Apple owners to know how it was done.

The initial problem was the choice of a word processing program. I had bought **Word Handler** with my computer and had gratefully upgraded to the **Word Handler II** now available. I thought it to be a straightforward and easy to use program, but it lacked the flexibility necessary to produce foreign language characters on the screen or through a printer equipped with the appropriate type fonts. I began to investigate the market and it was as much through luck as design that I happened on **SuperScribe II** (Sierra On-Line), now superseded by the much improved version renamed **Screenwriter II**. I have reviewed these two programs in some detail in an earlier issue of this magazine, so I will not go into their relative virtues. Suffice it to say that Screenwriter II had the special capabilities necessary to make it a very powerful word processor for German. The main thing I miss is the true on-screen formatting possible during text entry with **Word Handler** and **WordStar**. The problem of foreign language word processing falls into two major areas, the screen display and the output to the printer. Fortunately Screenwriter II provides the necessary flexibility in both areas.

The Screen Display

With many word processors the screen display would provide an insurmountable obstacle. The programs make use of the character sets wired into ROM in our computers or in the 80-column board (Videx does provide alternate character sets in EPROM form.) Screenwriter II uses a high resolution graphics character set under software control. One can thus replace the character set using another hires character set. The documentation tells us that this is possible, but it provides information about the procedure that is both incorrect and incomplete.

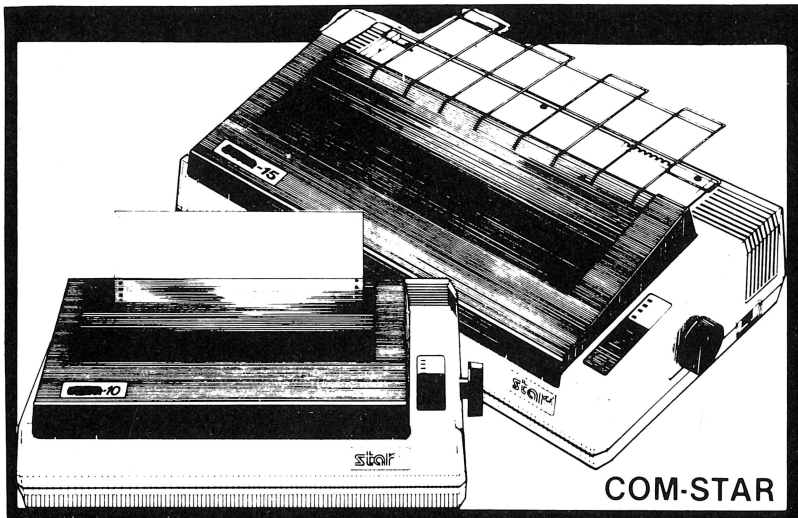
I found the easiest source of alternate character sets to be the **DOS Tool Kit** from Apple. The Tool Kit already contains a considerable number of fonts (including foreign languages such as Russian and Greek) for use with its own high resolution character generator. I took the ASCII set and modified the appropriate letters to produce the special characters required. For German this turned out to be seven. I needed upper and lower case versions of the umlauted a, o, and u along with the special double-s sign that looks rather like a Greek beta. Before carrying this task out, I decided which keys on the keyboard I would be least likely to use in a German text and assigned them to the special characters I needed. Now that I had room for the special characters I could turn to the task of drawing them using the **ANIMATRIX** program on the DOS Tool Kit.

The biggest job in all of this is usually the development of the character set using ANIMATRIX. The instructions are fairly clear and I can only suggest that you experiment until you get the results you want on the screen as displayed in the complete character set listing (Accessible through CTRL-D). Be sure to check the appearance of the letters there before closing out your character set. Sometimes one or more dots will be slightly out of line with the others. This can be corrected by typing CTRL-T while the cursor is over the dot in question. By the way, it is much easier to use ANIMATRIX with paddles than with a joystick. The joystick is very hard to hold on a specific point in the grid while the paddles usually stay put once a point has been set. The complete set is given an appropriate name and saved.

I then loaded the German set onto a utility disk (neither the DOS Tool Kit disk nor the Screenwriter II Program disk has room for this operation) and ran the little program "UPSIDE DOWN" from the Screenwriter II program disk. This is necessary because the word processor uses the letter shapes in an upside down form. Don't ask me why this is done.

Continued on page 30.

80 COLUMN PRINTER SALE—$149.00*



COM-STAR T/F

Tractor Friction Printer

only $199.00**

15 Day Free Trial -180 Day Immediate Replacement Warranty

- **Lowest Priced, Best Quality, Tractor-Friction Printers in the U.S.A.**
- **Fast 80-120-160 Characters Per Second**
- **40, 46, 66, 80, 96, 132 Characters Per Line Spacing**
- **Word Processing**
- **Print Labels, Letters, Graphs and Tables**
- **List Your Programs**
- **Print Out Data from Modem Services**
- **"The Most Important Accessory for Your Computer"**

*STX-80 COLUMN PRINTER—$149.00

Prints full 80 columns. Super silent operation, 60 CPS, prints Hi-resolution graphics and block graphics, expanded character set, exceptionally clear characters, fantastic print quality, uses inexpensive thermal paper! Best thermal printer in the U.S.A.! (Centronics Parallel Interface).

**DELUXE COMSTAR T/F 80 CPS PRINTER—$199.00

The COMSTAR T/F (Tractor Friction) PRINTER is exceptionally versatile. It prints 8½" x 11" standard size single sheet stationary or continuous feed computer paper. Bi-directional, impact dot matrix, 80 CPS, 224 characters. (Centronics Parallel Interface).

Premium Quality—120 CPS COMSTAR T/F SUPER-10X PRINTER—$289.00

COMSTAR T/F (Tractor Friction) SUPER-10X PRINTER gives you all the features of the COMSTAR T/F PRINTER plus a 10" carriage, 120 CPS, 9 x 9 dot matrix with double strike capability for 18 x 18 dot matrix (near letter quality), high resolution bit image (120 x 144 dot matrix), underlining, back spacing, left and right margin settings, true lower decenders with super and subscripts, prints standard, italic, block graphics and special characters, plus 2K of user definable characters! The COMSTAR T/F SUPER-10X PRINTER was Rated No. 1 by "Popular Science Magazine." It gives you print quality and features found on printers costing twice as much!! (Centronics Parallel Interface) (Better than Epson FX 80).

Premium Quality—120 CPS COMSTAR T/F SUPER-15½" PRINTER—$379.00

COMSTAR T/F SUPER 15½" PRINTER has all the features of the COMSTAR T/F SUPER-10X PRINTER plus a 15½" carriage and more powerful electronics components to handle large ledger business forms! (Better than Epson FX 100).

Superior Quality SUPER HIGH SPEED—160 CPS COMSTAR T/F 10" PRINTER—$429.00

SUPER HIGH SPEED COMSTAR T/F (Tractor Friction) PRINTER has all the features of the COMSTAR SUPER-10X PRINTER plus SUPER HIGH SPEED PRINTING—160 CPS, 100% duty cycle, 8K buffer, diverse character fonts, special symbols and true decenders, vertical and horizontal tabs. RED HOT BUSINESS PRINTER at an unbelievable low price!! (Serial or Centronics Parallel Interface)

Superior Quality SUPER HIGH SPEED—160 CPS COMSTAR T/F 15½" PRINTER—$529.00

SUPER HIGH SPEED COMSTAR T/F 15½" PRINTER has all the features of the SUPER HIGH SPEED COMSTAR T/F 10" PRINTER plus a 15½" carriage and more powerful electronics to handle larger ledger business forms! Exclusive bottom paper feed!!

PARALLEL INTERFACES

For VIC-20 and COM-64—$69.00
For Apple Computers—$79.00

NOTE: Other printer interfaces are available at computer stores!

Double Immediate Replacement Warranty

We have doubled the normal 90 day warranty to 180 days. Therefore if your printer fails within "180 days" from the date of purchase you simply send your printer to us via United Parcel Service, prepaid. We will IMMEDIATELY send you a replacement printer at no charge, prepaid. This warranty, once again, proves that WE LOVE OUR CUSTOMERS!

Add $17.50 for shipping, handling and insurance. WE DO NOT EXPORT TO OTHER COUNTRIES EXCEPT CANADA.

Enclose Cashiers Check, Money Order or Personal Check. Allow 14 days for delivery, 2 to 7 days for phone orders, 1 day express mail! Canada orders must be in U.S. dollars. VISA — MASTER CARD ACCEPTED. We ship C.O.D.

PROTECTO ENTERPRIZES (WE LOVE OUR CUSTOMERS)
BOX 550, BARRINGTON, ILLINOIS 60010
Phone 312/382-5244 to order

SUPER-10" ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ 1234567890

Circle HelpCard No.27

SANYO MONITOR SALE!!



9" Data Monitor

- 80 Columns × 24 lines
- Green text display
- Easy to read - no eye strain
- Up front brightness control
- High resolution graphics
- Quick start - no preheating
- Regulated power supply
- Attractive metal cabinet
- UL and FCC approved

- ***15 Day Free Trial - 90 Day Immediate Replacement Warranty***

9" Screen - Green Text Display	**$ 69.00**
12" Screen - Green Text Display (anti-reflective screen)	**$ 99.00**
12" Screen - Amber Text Display (anti-reflective screen)	**$ 99.00**
12" Screen-Super 1000 Line Amber Text Display	**$129.00**
14" Screen - Color Monitor (national brand)	**$249.00**

Display Monitors From Sanyo

With the need for computing power growing every day, Sanyo has stepped in to meet the demand with a whole new line of low cost, high quality data monitors. Designed for commercial and personal computer use. All models come with an array of features, including up-front brightness and contrast controls. The capacity 5 × 7 dot characters as the input is 24 lines of characters with up to 80 characters per line.

Equally important, all are built with Sanyo's commitment to technological excellence. In the world of Audio/Video, Sanyo is synonymous with reliability and performance. And Sanyo quality is reflected in our reputation. Unlike some suppliers, Sanyo designs, manufactures and tests virtually all the parts that go into our products, from cameras to stereos. That's an assurance not everybody can give you!



• LOWEST PRICES • 15 DAY FREE TRIAL • 90 DAY FREE REPLACEMENT WARRANTY
• BEST SERVICE IN U.S.A. • ONE DAY EXPRESS MAIL • OVER 500 PROGRAMS • FREE CATALOGS

Add $10.00 for shipping, handling and insurance. Illinois residents please add 6% tax. Add $20.00 for CANADA, PUERTO RICO, HAWAII orders. WE DO NOT EXPORT TO OTHER COUNTRIES.

Enclose Cashiers Check, Money Order or Personal Check. Allow 14 days for delivery, 2 to 7 days for phone orders, 1 day express mail! Canada orders must be in U.S. dollars. Visa - MasterCard - C.O.D.

PROTECTO
ENTERPRIZES (WE LOVE OUR CUSTOMERS)
BOX 550, BARRINGTON, ILLINOIS 60010
Phone 312/382-5244 to order

Circle HelpCard No.28

I wish it were possible to perform the next operations on an extra backup disk as well, but Sierra On-Line has seen fit to copy-protect Screenwriter II, leaving us in the uncomfortable situation of having to work on the program disk itself. At least they have provided a backup disk in case something does go wrong. With properly adjusted equipment everything should go well, but I wouldn't recommend adding and removing files from the program disk with a drive that has been giving trouble. It should also be kept in mind that the program disk supplied by the manufacturer is very full. There is room for only one extra character set on it. Extra space can be gained by moving the sample text files and the tutorial to another disk and deleting them from the program disk.

The upside down character set (which should be five sectors long) is now FIDed onto the program disk. Next LOAD APP2 from the disk and add the following lines:

```
7820 PRINT D$"BLOAD DEUTSCH.SET,A$D00"
8820 PRINT D$"BLOAD DEUTSCH.SET,A$D00"
9820 PRINT D$"BLOAD DEUTSCH.SET,A$D00"
```

You would, of course use the name you have given your character set in place of DEUTSCH.SET. After adding these lines SAVE APP2 and run the program CUSTOMIZE. You do not have to change any entries, but the alternate character set will not work unless you rerun the CUSTOMIZE program.

The documentation omits line 9820 and gives the address for the BLOAD incorrectly as $C00. (Remember that the Ø is a zero not the letter O.) It also fails to tell us to recustomize the program.

When the Editor is loaded and run, the assigned keys should produce the desired new characters. The alternate character set only functions with the default 40 column display, not with the special 70 column display (called up by the command 70c from the command line.) I find the special 70c font of little use since it does not reflect the line breaks of the printout and thus gives only a longer on-screen line using rather poorly legible characters.

I recommend that only one of the disks supplied with the program be converted and that the other disk be kept for English language work. It would also be possible to add a few additional lines of BASIC to give you the choice of the original font or the newly installed foreign language font, but that would necessitate attention every time the program is booted and it is easier to dedicate one disk to each language.

Printer Output

The key to Screenwriter II's usefulness in this area is its character replace function. It is possible to have any keystroke go into the text file as any other. If the key does not exist on the Apple keyboard, you can use the ASCII number for the desired character. You could theoretically redefine the entire keyboard using this function, but it will suffice to redefine the characters used in your special foreign language font. You will have to define this function in terms of your printer. If you have a daisy wheel printer, then the task is relatively easy. You only need to find a wheel for your language and then determine where your special characters are located. The BASIC program listed in Figure 1 will printout a list of the characters available on your printer next to their ASCII numbers.

```
10   PRINT CHR$ (4);"PR°1"
15   GOSUB 99
20   FOR J = 1 TO 4
30   GOTO 100
40   NEXT J
50   PRINT  CHR$ (13) CHR$ (10)
51   GOTO 20
55   PRINT  CHR$ (13): PRINT  CHR$
     (4);"PR°0"
60   END
99   I = 33: RETURN
100  PRINT I" " CHR$ (I),
110  IF I = 126 THEN 55
120  I = I + 1
130  GOTO 40
```

Figure 1

Each printer will create different problems here, but the general approach will be the same. After determining the ASCII codes of the letters you want to print on your printer you will need to make out a table of replacements to place at the beginning of each file. The table will look something like the one printed in Figure 2. The numbers following the .re symbol and the character involved are the ASCII codes of the same characters on the printer. The Epson MX-80 with the older ROMs provide several alternate character sets with different settings of the DIP switches inside the Printer. You could then access the characters simply by means of their ASCII code. Later models such as the MX-80 F/T III have expanded their basic font to include several accents that can be added using the new backspacing feature. I have not been very successful in getting these to work with the program, since the character replace function replaces each character with a single other character or ASCII code. An alternate approach that could be used with such things as umlauts and accents would be to imbed a backspace (CTRL-X,CTRL-H) and the key necessary to produce the additional character. This approach has, however, the disadvantage of defeating the neat on-screen display of the foreign characters we worked so hard to get in the beginning.

```
.reÄ,91
.reÖ,92
.reÜ,93
.reä,123
.reö,124
.reü,125
.reß,64
```

Figure 2

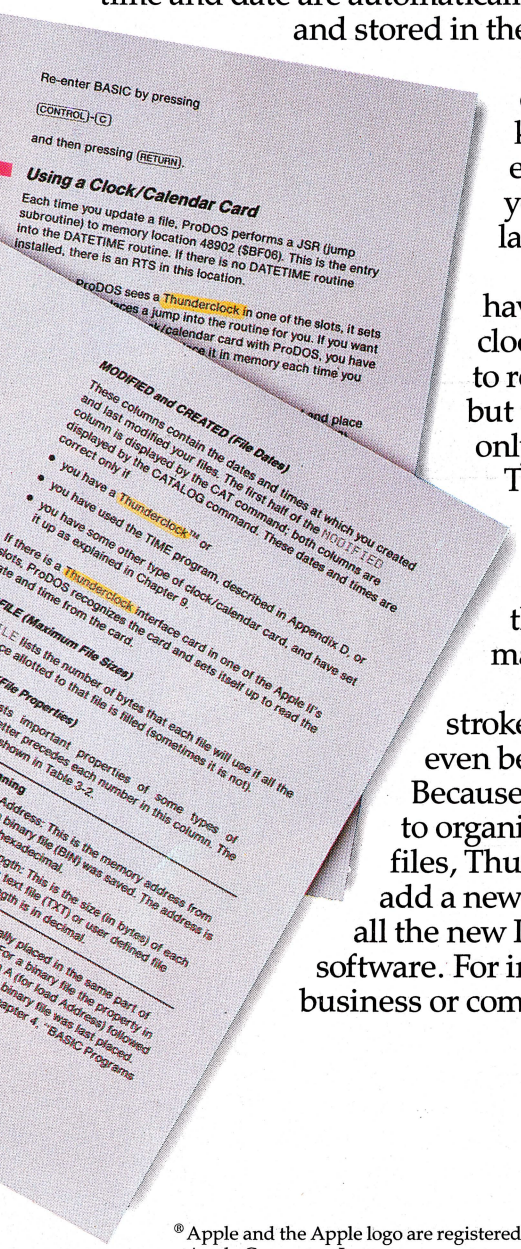
Most printers made for the international market have some kind of arrangement for alternate character sets and you will have to refer to your owner's manual to determine the exact procedure. Reruning the BASIC program in Figure 1 will show the capabilities of each font. A little experimentation will lead to the results you want.

The expanded keyboard capabilities of the //e renders much of this unnecessary, but not all of us will switch immediately to Cupertino's latest wonder. The //e is also supposed to have special ROM chips for the European languages to match its new keyboard.

Apple's® new ProDOS™ is pro Thunderclock™

When Apple designed their new ProDOS operating system for the Apple II family, they included an important new function—the ability to automatically read a clock/calendar card. Nice touch.

It means that every time you create a new file or modify an existing one, the time and date are automatically recorded and stored in the CATALOG.


Re-enter BASIC by pressing

CONTROL-C

and then pressing RETURN.

Using a Clock/Calendar Card

Each time you update a file, ProDOS performs a JSR (jump subroutine) to memory location 48902 ($BF06). This is the entry into the DATETIME routine. If there is no DATETIME routine installed, there is an RTS in this location.

ProDOS sees a Thunderclock in one of the slots, it sets ...es a jump into the routine for you. If you want ...alendar card with ProDOS, you have ...e it in memory each time you ...and place

MODIFIED and CREATED (File Dates)

These columns contain the dates and times at which you created and last modified your files. The first half of the MODIFIED column is displayed by the CAT command; both columns are displayed by the CATALOG command. These dates and times are correct only if

- you have a Thunderclock™ or
- you have used the TIME program, described in Appendix D, or
- you have some other type of clock/calendar card, and have set it up as explained in Chapter 8.

If there is a Thunderclock interface card in one of the Apple II's slots, ProDOS recognizes the card and sets itself up to read the ...e and time from the card.

...FILE (Maximum File Size)

...FILE lists the number of bytes that each file will use if all the ...e allotted to that file is filled (sometimes it is not).

...File Properties)

...is important properties of some types of ...ter precedes each number in this column. The ...shown in Table 3-2.

...ning

...Address: This is the memory address from ...binary file (BIN) was saved. The address is ...hexadecimal.

...gth: This is the size (in bytes) of each ...text file (TXT) or user defined file ...gth is in decimal.

...ly placed in the same part of ...or a binary file the property in ...A (for load Address) followed ...binary file was last placed.

...apter 4, "BASIC Programs

Now you can instantly know the exact time your files were last updated.

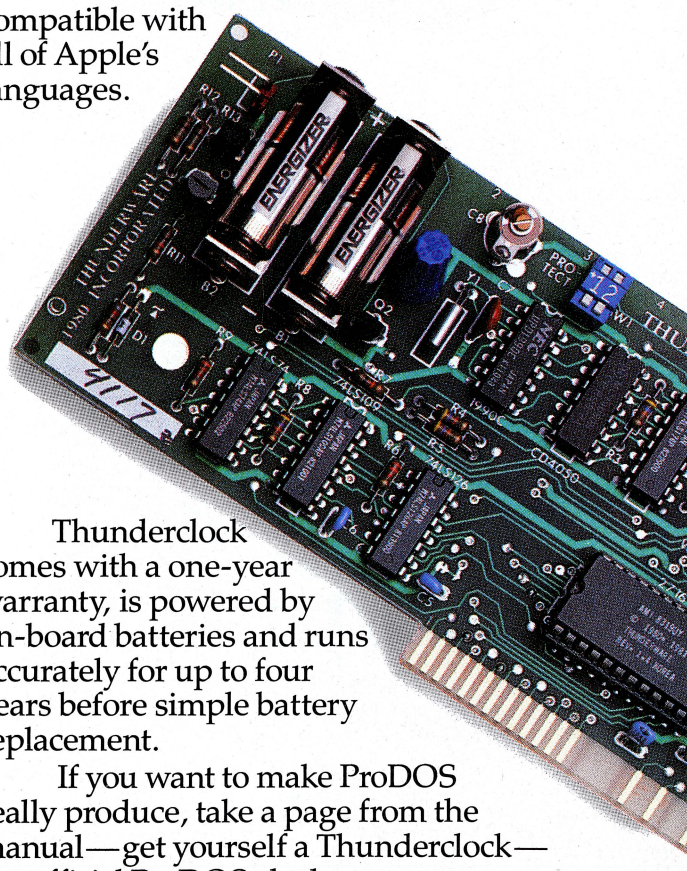
Apple could have chosen any clock for ProDOS to recognize, but they chose only one.

Thunderclock.

It's the only clock mentioned in the ProDOS manuals.

That's a nice stroke for us, but it's even better for you. Because, in addition to organizing your disk files, Thunderclock will add a new dimension to all the new ProDOS-based software. For instance, with business or communications software you can access a data base or send electronic mail automatically, when the rates are lowest. Even when you're not around. And that's just a start. The better you can use your Apple, the better you can use a Thunderclock.

Thunderclock gives you access to the year, month, date, day-of-week, hour, minute and second. It lets you time intervals down to milliseconds and is compatible with all of Apple's languages.



Thunderclock comes with a one-year warranty, is powered by on-board batteries and runs accurately for up to four years before simple battery replacement.

If you want to make ProDOS really produce, take a page from the manual—get yourself a Thunderclock—the official ProDOS clock.

See your dealer or contact us.

® Apple and the Apple logo are registered trademarks of Apple Computer, Inc.

™ ProDOS is a trademark of Apple Computer, Inc.

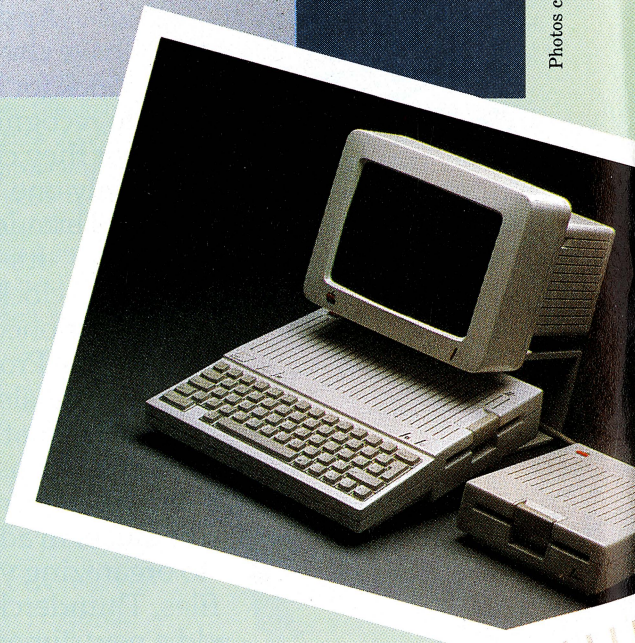
THUNDERWARE, INC.
44 Hermosa Avenue, Oakland, CA 94618
(415) 652-1737

Circle HelpCard No.35

Apple's New //c:



Photos courtesy of Apple Computer Inc.



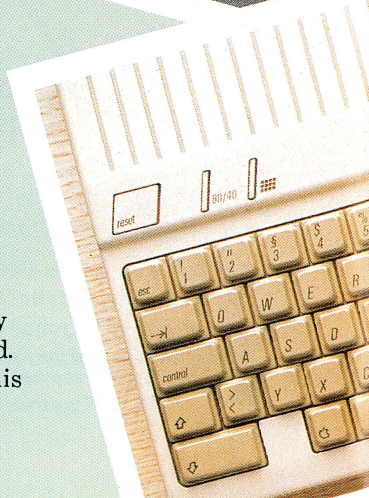
The First *Real* Personal Computer?

by Peter C. Weiglin

(Note: some of the material in this article is excerpted from a new book about the //c by Peter Weiglin and Education Editor Joyce Conklin, published by Addison-Wesley.)

Sly old Apple. While the world was diverted by the super-hype surrounding the Macintosh, another group of Apple folk was developing an even more personal computer. The team that developed the Apple //c maintains that their product is Apple's first really personal computer. It's small enough to fit into a briefcase, which Macintosh is not. But the //c is also as powerful as a //e with five slots full, which leaves the other machines in its size and price range in a cloud of silicon dust.

A word about prices, please. When we went to press, the expected price for the //c was "under $1300" for a package that is essentially the same as a //e plus disk drive plus two serial cards plus the 80-column and 64K memory card, plus the mouse interface card. Now, Apple may yet change this



price; they have been known to drive everybody crazy with last-minute "adjustments", even while their well-meaning minions steadfastly point to the quicksand and label it concrete. Apple may also say that the price is whatever the dealer charges; the posted price is only "suggested retail" after all. Whatever it is, it is.

We have been testing a prototype model for some months now, and have come to the conclusion that the //c is likely to have the same relationship to the Macintosh as the Mustang to the Thunderbird. It's sexy in a less elegant way, gets the job done, and costs less. The guessing is that the //c will outsell the Macintosh, and Apple is expanding its dealer base away from techieland by adding more department store outlets, among others.

So, for $1100 less than a Macintosh, you can get the latest of the Apple //s. The Apple //c is physically the smallest member of the Apple "6502 Family" of microcomputers, but it is by no means the least powerful. Its standard RAM memory configuration is 128K. Billed as a portable computer, the //c weighs only 7.5 lbs. (3.4 kg.). Unlike other Apple // models, the //c has a built-in 5 1/4-inch disk drive accessible from its right side. The //c contains circuitry for many functions and interfaces that required additional costly hardware on the II+ and //e models (and which still require extra-cost "optional" hardware on other brands of computers).

The Keyboard

The Apple //c has a standard, full-size, 63-key keyboard. And it's a *real* keyboard. No funny buttons, no odd key placement. Despite the small overall size of the //c, there is no compromise here. The keyboard dimensions and layout are identical to those on all Apple // and /// models now being manufactured. For the Apple ///, //e, Lisa, Macintosh and //c, the keyboards also follow the IBM Selectric standard.

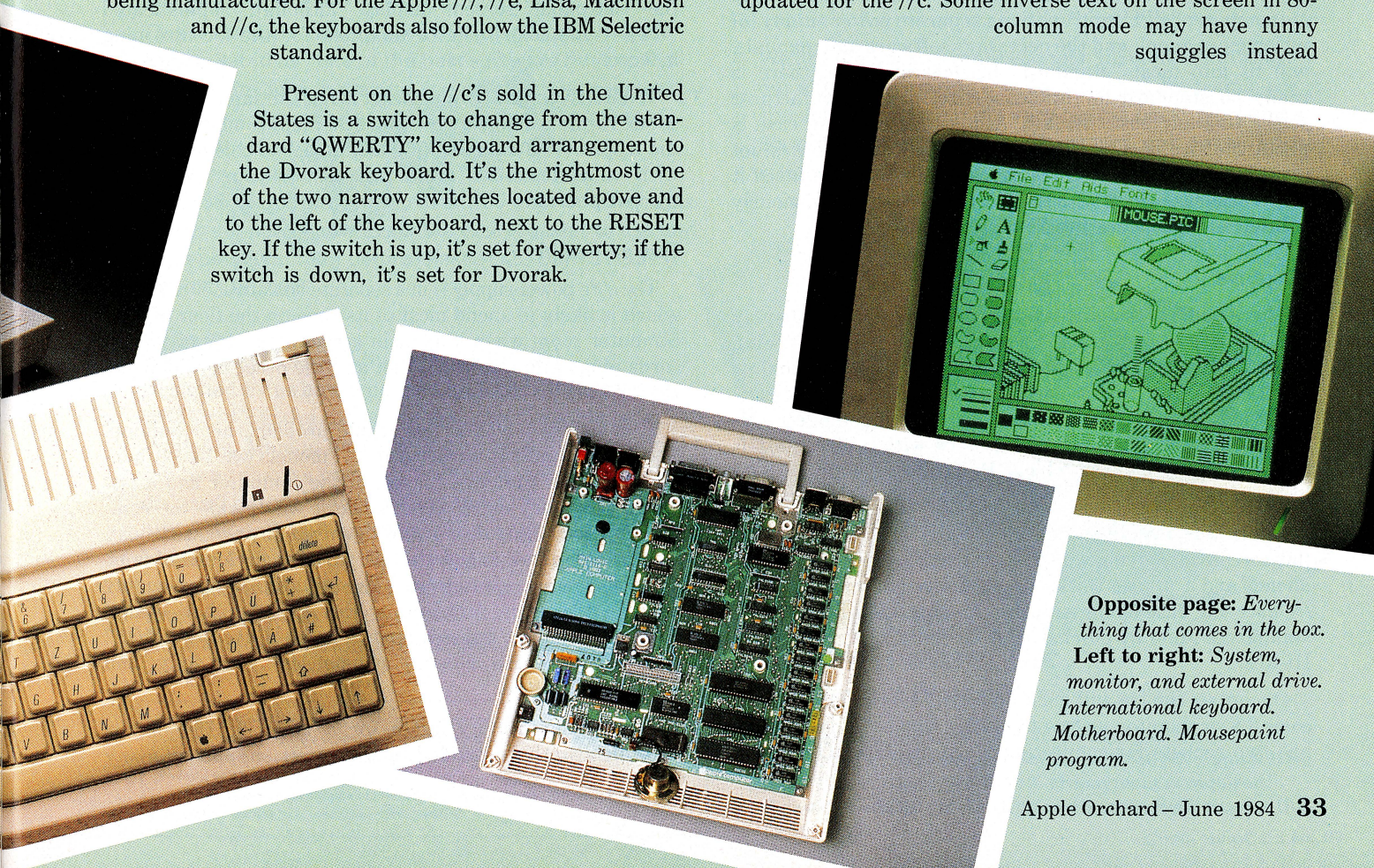
Present on the //c's sold in the United States is a switch to change from the standard "QWERTY" keyboard arrangement to the Dvorak keyboard. It's the rightmost one of the two narrow switches located above and to the left of the keyboard, next to the RESET key. If the switch is up, it's set for Qwerty; if the switch is down, it's set for Dvorak.

On Apple //c models sold outside of the United States, pressing the keyboard selector switch down yields one of seven localized keyboard layouts, complete with accents and special letters for the country in which the machine is sold. With the switch up, the American QWERTY keyboard is available. Note: the changeover is not difficult. If you are in the USA but would benefit from a keyboard configurable for another language instead of Dvorak, see your dealer.

Shady Characters

The //c has the full upper and lower case text display ability which is standard on the //e, and built-in 40 and 80 column display capability. On the Apple //e if you type a programming command (such as RUN) in lowercase letters, the computer will not recognize it. Instead, it will return the dreaded SYNTAX ERROR message. On the //c you may type BASIC commands in upper or lower case, or any combination of the two. The computer's Applesoft BASIC language interpreter program will recognize the command (so long as it is spelled correctly!) If you LIST the program after you do this, you'll find that the commands have all been translated into upper case for display. DOS commands must still be entered as upper case letters. For example, lower case "pr#6" or "catalog" will cause an error message to be displayed.

There is a disconcerting difference in the character sets between the //c and the //e. The //e has two sets of upper case letters in its memory, and in the 80-column mode, either set consists of letters. Not so on the //c. As part of the mouse programming in the //c, one of the two sets of inverse capital letters has been replaced by a group of 32 graphics characters collectively known as Mousetext™. This can cause problems if you use a piece of software written for the //e and not updated for the //c. Some inverse text on the screen in 80-column mode may have funny squiggles instead



Opposite page: *Everything that comes in the box.* **Left to right:** *System, monitor, and external drive. International keyboard. Motherboard. Mousepaint program.*

of the capital letters. Do not adjust your computer; the problem is in the program, and it's not fatal to your software.

What Slots?

Following Macintosh's clear break with Apple tradition, the //c has none of the internal expansion slots common to older Apples. On the II+ and //e, eight of these slots are used for adding printer interfaces (usually in Slot 1), expanding RAM memory (in Slot 0 of the II+ or in the special auxiliary slot of the //e), connecting a communications modem (usually Slot 2 or 4), adding the controller card for external disk drives (Slot 6), and inserting cards to generate an 80-column wide display (Slot 3 on the II+, or the auxiliary slot on the //e). The functions that were enabled by these cards are all built into the //c.

The hobbyists will wail and moan, but most of us Apple owners never go beyond, or need more than, the //c's hardware configuration. Recognizing this, the Apple // group developed a new small package that would conveniently include these features.

Portability

Just because it has a handle, is it portable? This writer remembers horsing a 50-pound broadcast tape recorder around years ago; it was called a "portable", because the manufacturer had thoughtfully provided handles. Reinforced handles. Today, computer manufacturers put handles on a 30-pound box and call it a "portable". Heck, even a Lisa is portable if you're Lou Ferrigno. Most "portable" computer models are perhaps better called "transportables". They have handles and can be grunted under an airplane seat, but they must have 110-volt AC power to operate.

So is the //c more portable or less portable? Yes it is. The //c computer "CPU unit", with its separate power supply (of which more anon), and the necessary software and manuals, will fit into most "standard" briefcases. (Note: there is really no standard for briefcase size; each manufacturer seems to know best.) In fact, Apple's //c carrying case is about the size of a briefcase. The second disk drive is not provided for in the //c carrying case, but we have fitted it into a briefcase along with the //c. If you can't, it's obviously a briefcase hardware problem.

Displays

There is no built-in display screen in the //c, so the display unit must be in a separate box. A nine-inch monitor is being manufactured by Apple specifically for the //c. That monitor won't fit into our briefcase with the system; the cathode ray tube video display remains the most difficult computer system component to miniaturize. Maybe with a larger briefcase . . . but there's the problem. Portability is in the eye and bicep of the porter.

Apple will introduce this fall (or maybe late summer) a flat-screen display unit for the //c. This dandy will be about an inch and a quarter thick, and will indeed fit into the Apple //c carrying case along with the computer. It will show the standard 24-line by 80-character screen display, including Hi-Res.

Of course, the //c will hook up to any black and white or color TV or monitor just as the older Apple //s do. The //c has two sockets for connecting video displays. The round single-pin RCA-type socket is the one used most often. A color or black and white video monitor will connect directly here.

If you use a standard TV set you'll need to use one other item, an RF modulator to convert your computer's output into a signal your TV can receive through its antenna terminals. An RF modulator is packed with every //c (that's something new for Apple; previously, RF modulators were a separate item).



Inch and a quarter thick flat-screen display unit for the //c. Standard 24-line by 80-character screen display, including Hi-Res.

Next to the RCA connector on the back of the //c is a 15-pin D-type connector. That's a more complex audio and video connection, for advanced display devices. The most common device to be connected to this socket is likely to be the flat-panel screen display, although sophisticated "RGB"-type color monitor adapters for the //c also plug in here.

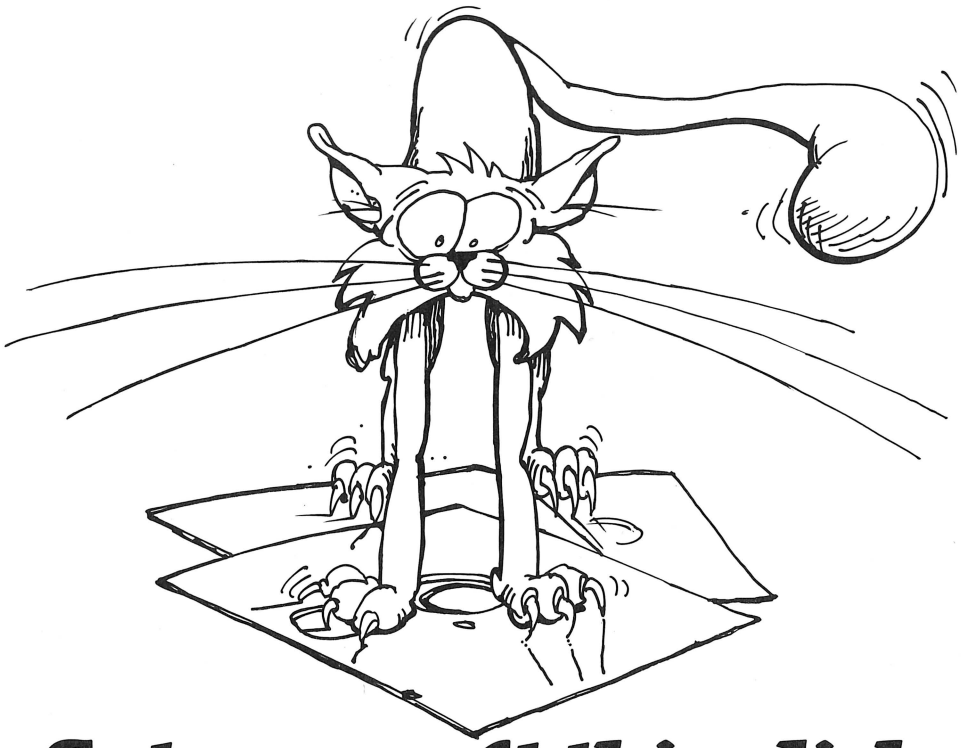
WARNING: this 15-pin socket is not the same electrically as the 15-pin connectors used on other Apple models such as the Apple ///. Before hooking any device to this port, check with your dealer to avoid damage to your //c and/or the peripheral.

Power Supply

The //c's power supply is in a separate box about 5" x 5" x 8", which is likely to spend most of its time on the floor of your computer room when it's not in a briefcase. One of its two cords plugs into the wall outlet and the other cord delivers 15 volts DC to the //c.

That neatly solves an old Apple problem, heat buildup. The power supply in earlier Apple II models was barely adequate to meet the power needs of the computer and a few added auxilliary cards. And, since it was inside the computer's case, the power supply generated unwanted heat. Heat buildup can cause electric parts to do funny things, most of them inappropriate. The separate power supply reduces the heat problem in the //c. Another design improvement that reduces heat is Apple's use of "CMOS" type chips. These chips consume less electricity and generate less heat.

Consider portability again for a moment. 15 volts is equivalent to that provided by the power supplies in many



Cat on a soft thin disk.

You need software insurance.

Diskettes are fragile, and when a protected program is damaged, the results are expensive and inconvenient. If you have a backup diskette, though, you can have your Apple, IBM or compatible computer back on line within seconds . . . affordably. That's software insurance.

Copy II Plus (Apple][,][Plus, //e)

This is the most widely used backup program for the Apple. Rated as "one of the best software buys of the year" by **InCider** magazine, its simple menu puts nearly every disk command at your fingertips. The manual, with more than 70 pages, describes protection schemes, and our **Backup Book**™ lists simple instructions for backing up over 300 popular programs. A new version is now available that is easier to use and more powerful than before. Best of all, Copy II Plus is still only **$39.95.**

NEW!

WildCard 2 (Apple][,][Plus, //e)

Designed by us and produced by Eastside Software, WildCard 2 is the easiest-to-use, most reliable card available. Making backups of your total load software can be as easy as pressing the button, inserting a blank disk and hitting the return key twice. WildCard 2 copies 48K, 64K and 128K software, and, unlike other cards, is always ready to go. No preloading software into the card or special, preformatted diskettes are required. Your backups can be run with or without the card in place and can be transferred to hard disks. **$139.95** complete.

Important Notice: These products are provided for the purpose of enabling you to make archival copies only. Under the Copyright Law, you, as the owner of a computer program, are entitled to make a new copy for archival purposes only, and these products will enable you to do so.

These products are supplied for no other purpose and you are not permitted to utilize them for any use, other than that specified.

Copy II PC (IBM)

This is **THE** disk backup program for the IBM PC and PC/XT that backs up almost anything. Others may make similar claims, but in reality, nothing out performs Copy II PC . . . at any price. Copy II PC even includes a disk speed check and is another "best buy" at only **$39.95.**

We are the backup professionals. Instead of diluting our efforts in creating a wide variety of programs, we specialize in offering the very best in backup products. So, protect your software investment, and get surefire relief from scratchy disks.



CENTRAL POINT Software, Inc.

The Backup Professionals

To order, call 503/244-5782, 8:00-5:30 Mon.-Fri., or send your order to: Central Point Software, 9700 SW Capitol Hwy, Suite 100, Portland, OR 97219. **Prepayment is required. Please include $2 for shipping and handling ($8** outside U.S. or Canada).

Circle HelpCard No.07

vehicles. Thus, it is possible to run the //c by hooking it up to a battery power supply. If a 15-volt DC portable monitor or display is used, the //c can become truly "portable". You would not be limited to the length of a 110-volt AC cord. We do not expect much time to elapse before the equipment that allows such portability is on the market.

You'll be able to carry your //c to, and use it in, remote locations, even outdoors. The mind boggles at the incongruity of a latter-day Thoreau happily word-processing on the shores of a Waldenesque pond, but at the same time, we realize that there may be something to that claim about the first real personal computer after all. Thoreau possibly would not have used a //c, but Shakespeare darn sure would have; he wrote for money, anywhere he could.

Disk Drives

The //c contains one built-in 5-1/4-inch "half high" disk drive. The unit is fully compatible with Apple's standard 35-track, 16-sector disk formats. The disk drive control (the "Integral Woz Machine" to the engineers) has been compressed into one chip on the main circuit board.

Apple makes a second disk drive unit which comes in its own "half-high" box. It is plugged into one of the sockets on the back of the //c. The disk drive cable connector plug is not the same as that used on older Apple models. The second //c disk drive uses a 19-pin "D-type" connector with a more rugged cable and connection than the delicate ribbon cables used on the Apple II and //e. There is a limitation: no more than two disk drives can be used with the //c — one built-in and one external. That's all.



Built-in 5-¼-inch "half high" disk drive. The unit is fully compatible with Apple's standard 35-track, 16-sector disk formats.

Swapping disks back and forth on a one disk drive system can become a pain. Many software packages run much more easily if you use a two-drive system which has the program disk in Drive 1 and the disk with your data on it in Drive 2. Because of the frustration you will avoid by having a second drive, we recommend that you purchase one as soon as possible.

If you turn on the computer and there is no disk in the built-in drive, the screen will display a message asking you to check the disk drive. That's an improvement over the older Apple models, which would whirr forever.

Even though there are no peripheral cards and no actual slots in the //c, the built-in drive is still addressed as Slot 6, Drive 1, just as it was on the older models. The one external disk drive permitted with the //c is known as Slot 6, Drive 2. This was done to keep the older software compatible with the //c. The standard PR#6 and IN#6 keyboard commands work without change.

The //c drives are designed to run most of the software that would run on the Apple //e and Apple II+ computers. That's good, because that's the largest catalog or "base" of software items available for any microcomputer. Other language systems which operate on the //e, such as Pascal and Logo, will also operate on the //c.

Some software, primarily games, will not operate on the //c. In most cases, this is because the software manufacturers used disk copy-protection schemes based on the different mechanical characteristics of older Apple drives. Also not operable are programs which require the CP/M or MS-DOS operating systems because there are no CP/M or MS-DOS adapters for the //c.

The best way to determine compatibility is to check the package to see if it is clearly marked as compatible with the //c. If you see a compatibility notice or sticker, the manufacturer has done his homework. Even if you can't find a marking which indicates whether a particular II+ or //e software product runs on the //c, you can still be reasonably sure that it will run because most leading companies' products are likely to be //c-compatible. As a final check, ask the dealer to try the program on a //c at the store before you buy the program.

Mice and Other Stuff

Paddles, a joystick, or even a mouse plugs into the //c using the 9-pin D-type connector at the left of the back panel. The paddles and joystick do not come with the computer. Caution: when you buy paddles or joysticks, make sure they have the 9-pin connector. Many older paddles and joysticks had a delicate 16-pin connector for the Apple II+. There is no place to plug in such a connector on the //c. Also, remember that the joysticks and paddles for your Apple are not likely to be compatible with those intended for another brand of computer, even if they look the same.

Apple was so overwhelmed by the response to Lisa's mouse that they decided to make mice available for every Apple model. In the II+, //e, and ///, a separate auxiliary board is required, but in the //c, the mouse "firmware" (ROM instruction set) is built in. All you need to do is plug the mouse into the paddle/joystick socket, and use a software program that is configured for the mouse.

While you're using the //c, the handle may either be in the folded position so that the computer sits flat on the desk, table, or your lap. The handle may also be turned down 180 degrees and used as a brace so that the keyboard is slanted with respect to the desktop. If you are forced to use a tabletop which is the usual 30 inches high, instead of the normal typing desk height of 27 inches, this feature will allow you a better typing angle.

The //c's speaker arrangement is a considerable improvement over the ones in earlier Apples. First, there is a volume

control on the left side of the computer to adjust the sound level. The //c also comes with earphones which can be used when you want to hear the computer's beeps but do not want to disturb other people nearby. There is an audio output line in the 15-pin socket on the back of the //c, to connect the audio signal to an external device.

Documentation

The manuals and interactive disks that come with the Apple //c offer the best approach to learning about your new machine. Apple has put much time and effort into their preparation, and they're better than anything we've seen heretofore. The best advice that we can offer is to take the time to go through them step by step. This is important even if the //c isn't your first computer, or even if it isn't your first Apple. It's very tempting to turn the thing on and jump in. The people who do that are quite often the same people you hear three months later saying, "I didn't know it could do that, too!"

The Apple tutorials include screen displays which simulate the subject program's actual screen display in order to teach certain specific points. In most cases, only the action or response called for will be acceptable to the tutorial program. With an actual program, you'll have more choices available at any given time. For the tutorial, just follow the instructions exactly and don't experiment.

What the //c Can't Do

The //c has no parallel output port, so only "serial" devices can be connected. Apple's current serial-only philosophy is also reflected in the Macintosh computer. Make sure that the external devices you use are configured for serial data transmission, not parallel.

The //c cannot tell time. Lisa, Macintosh and the Apple ///+ have built-in clock/calendar chips. The same capability can be had with an additional circuit board (e.g., the Thunderclock) in a II+ or //e.

The //c can't use programs with the CP/M operating system. Like the clock, that capability requires a separate board in an expansion slot similar to those found in the //e or Apple ///.

The //c is limited to 128K of memory and no expansion is possible. Yes, there are rumors that when larger memory chips become available at reasonable prices, the whole thing will be upgradable, but that's (a) not confirmed, and (b) in the future.

Two sockets missing from the //c, which were standard on other Apple models, are the tape cassette input and output jacks. These allowed connection of the audio cassette recorders used for data storage in the early days before disk drives became available. Since the //c contains a built-in disk drive for storage, the cassette port became expendable.

All of these things are more or less important, depending on your needs. Many computer users will never use all of the available RAM memory, nor will they feel the effects of the //c's strict hardware limits. The Apple //e, however, will do the things that the //c will not.

And IBM's PCjr?

It's inevitable that the Apple //c is going to be compared with IBM's PCjr model, although the //c is in fact even more powerful than some configurations of IBM's larger PC. The suggested list prices of the //c and IBM PCjr Extended Version are about the same ($1300), at least at this writing. It is not really fair to compare the //c and the $800 entry level PCjr because the entry-level PCjr does not contain comparable features and is not likely to be taken seriously.

The PCjr is not a compressed version of IBM's popular PC, and the most popular PC disk operating systems (DOS 1.1 and DOS 2.0) will not work on the PCjr. The Apple //c uses the same operating systems as its larger cousins. The PCjr is severely limited because while more than twice as much information can be stored on a disk, only one disk drive can be used with the system.

The //c as it comes is capable of executing more existing software "as is" than the PCjr. As time passes, this gap will be lessened somewhat, but the Apple //c is functionally much closer to the Apple //e than the IBM PCjr is to the IBM PC.

One sentence summary: The Apple //c is nobody's "Junior".

//c Obscura

by Gene Wilson

To market, to market . . .

The //c is yet another example of Apple Computer's growing momentum in the "small computer" marketplace. As Apple grows, more of the resources necessary to bring new products to "life" are being gathered and focused.

Since 1977, when Apple began, the flow of new products has taken about two years to run full cycle, from design to introduction (and full production). The Apple began almost as a hobbyist machine, and not until the Plus was introduced, in 1979, was there the flood of applications software (including Visicalc) that really started creating sales on a grand scale. Then the Apple /// and Lisa were developed and Apple finally became firmly entrenched in the business marketplace. In 1981, the //e was introduced, and the third party vendors continued to grow and prosper. The software market widened to include educational, home and small business applications.

As 1984 rolled around, Apple Computer put their entire operation into high gear. Macintosh, billed by Steve Jobs as, "The computer for the rest of us", kicked-off the year with a huge media-style event last January 24th. The Lisa got a facelift, a new disk drive, new operating software, and a more businesslike image. Now, in midyear, Apple has introduced its first, " truly personal" computer.

What the average personal computer user doesn't know about the International Apple Core could fill the next twelve issues of this magazine.

If you're like most Apple users, you don't realize the many benefits of an IAC membership. Or what it can do for you and your computer.

So what's an IAC?

International Apple Core™ is a nonprofit organization of Apple users and user groups. We are dedicated to providing education, information and support to users of Apple and Apple-compatible products.

We aren't just a club of clubs. You as an individual can enjoy all the special benefits we have been providing user groups since 1979. You will be able to share information on new applications. Or learn the latest on products. Or keep up on Apple events. And you can receive specialized training.

If you'd like to join a local user group we can point you to one in your area. Or help you contact other Apple enthusiasts around the corner or around the world.

A membership that pays you.

As a member of IAC you practically get paid with what you will save. By joining you will save nearly $20 on our electronic spreadsheet, *IACcalc*™. Not to mention all the other benefits only available to you as a member.

By the way, we'd like to mention those benefits.

Information, please.

IAC provides you with many sources of information. Your $30 a year membership fee brings you twelve issues of *Apple Orchard* magazine. Every page is devoted to Apple systems and compatible products. Lists of IAC user groups, sponsors, IAC notes and news, and reprints of user group articles are at your finger tips.

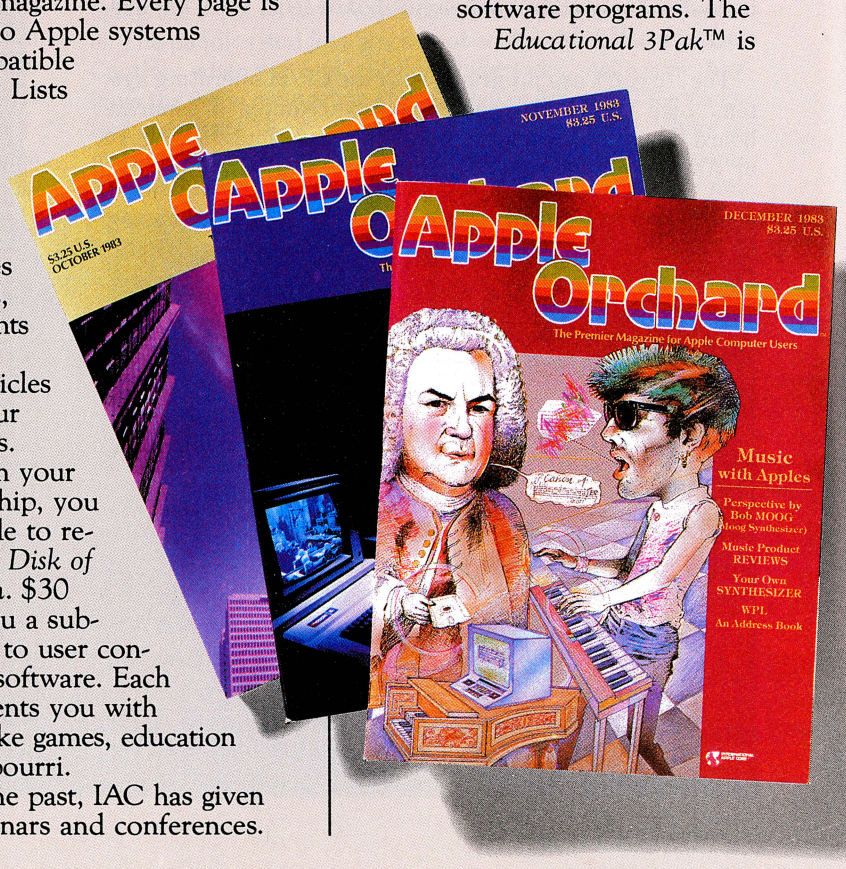
With your membership, you are eligible to receive our *Disk of the Month*. $30 brings you a subscription to user contributed software. Each one presents you with themes like games, education or a potpourri.

In the past, IAC has given you seminars and conferences. And you will always find us at the trade shows.

Special-interest and local user groups are a wealth of information to resolve your questions and problems. And we can help you find them.

Get an education.

You can be assured of many educational benefits through our software programs. The *Educational 3Pak*™ is



INTRODUCTORY MEMBERSHIP APPLICATION

☐ $30.00 U.S., Canada Mexico

☐ $72.00 International Membership

☐ $90.00 User Group Package

☐ $152.00 International User Group Package

☐ Are you currently a member of a user group?
☐ Would you like a list of user groups in your state?

Name _____

Address _____

City _____

State _____ Zip _____ Country _____

☐ Payment enclosed (U.S. funds only)
☐ VISA ☐ MasterCard Interbank No. ☐☐☐☐

Card No. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Card Expires ☐☐ ☐☐ ☐☐

INTERNATIONAL APPLE CORE™

Signature _____ Date _____

INTRODUCTORY MEMBERSHIP APPLICATION

☐ $30.00 U.S., Canada Mexico

☐ $72.00 International Membership

☐ $90.00 User Group Package

☐ $152.00 International User Group Package

☐ Are you currently a member of a user group?
☐ Would you like a list of user groups in your state?

Name _____

Address _____

City _____

State _____ Zip _____ Country _____

☐ Payment enclosed (U.S. funds only)
☐ VISA ☐ MasterCard Interbank No. ☐☐☐☐

Card No. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Card Expires ☐☐ ☐☐ ☐☐

INTERNATIONAL APPLE CORE™

Signature _____ Date _____

INTRODUCTORY MEMBERSHIP APPLICATION

☐ $30.00 U.S., Canada Mexico

☐ $72.00 International Membership

☐ $90.00 User Group Package

☐ $152.00 International User Group Package

☐ Are you currently a member of a user group?
☐ Would you like a list of user groups in your state?

Name _____

Address _____

City _____

State _____ Zip _____ Country _____

☐ Payment enclosed (U.S. funds only)
☐ VISA ☐ MasterCard Interbank No. ☐☐☐☐

Card No. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Card Expires ☐☐ ☐☐ ☐☐

INTERNATIONAL APPLE CORE™

Signature _____ Date _____

What the average p computer user does about the Internationa could fill the next tw of this magazi

If you're like most Apple users, you don't realize the many benefits of an IAC membership. Or what it can do for you and your computer.

So what's an IAC?

International Apple Core™ is a nonprofit organization of Apple users and user groups. We are dedicated to providing education, information and support to users of Apple and Apple-compatible products.

We aren't just a club of clubs. You as an individual can enjoy all the special benefits we have been providing user groups since 1979. You will be able to share information on new applications. Or learn the latest on products. Or keep up on Apple events. And you can receive specialized training.

If you'd like to join a local user group we can point you to one in your area. Or help you contact other Apple enthusiasts around the corner or around the world.

A membership that pays you.

As a member of IAC you practically get paid with what you will save. By joining you will save nearly $20 on our electronic spreadsheet, *IACcalc*™. Not to mention all the other benefits only available to you as a member.

By the way, we'd like to mention those benefits.

Information, please.

IAC provides you with many sources of information. Your $30 a year membership fee brings you twelve issues of *Apple Orchard* magazine. Every page is devoted to Apple systems and compatible products. Lists of IAC user groups, sponsors, IAC notes and news, and reprints of user group articles are at your finger tips.



With your membership, you are eligible to receive our *Disk of the Month*. $30 brings you a subscription to user contributed software. Each one presents you with themes like games, education or a potpourri.

In the past, IAC has given you seminars and conferences.

This is a limited time offer.
Act now.

INTRODUCTORY MEMBERSHIP

Don't miss
our great
introductory
membership

INTRODUCTORY MEMBERSHIP APPLICATION

☐ $30.00 U.S., Canada Mexico

☐ $72.00 International Membership

☐ $90.00 User Group Package

☐ $152.00 International User Group Package

☐ Are you currently a member of a user group?
☐ Would you like a list of user groups in your state?

Name _____

Address _____

City _____

State _____ Zip _____ Country _____

☐ Payment enclosed (U.S. funds only)
☐ VISA ☐ MasterCard Interbank No. ☐☐☐☐

Card No. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Card Expires ☐☐ ☐☐ ☐☐

INTERNATIONAL APPLE CORE™

Signature _____ Date _____

This is a limited time offer.
Act now.

INTRODUCTORY MEMBERSHIP

Don't miss
our great
introductory
membership

INTRODUCTORY MEMBERSHIP APPLICATION

☐ $30.00 U.S., Canada Mexico

☐ $72.00 International Membership

☐ $90.00 User Group Package

☐ $152.00 International User Group Package

☐ Are you currently a member of a user group?
☐ Would you like a list of user groups in your state?

Name _____

Address _____

City _____

State _____ Zip _____ Country _____

☐ Payment enclosed (U.S. funds only)
☐ VISA ☐ MasterCard Interbank No. ☐☐☐☐

Card No. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Card Expires ☐☐ ☐☐ ☐☐

INTERNATIONAL APPLE CORE™

Signature _____ Date _____

This is a limited time offer.
Act now.

INTRODUCTORY MEMBERSHIP

Don't miss
our great
introductory
membership

INTRODUCTORY MEMBERSHIP APPLICATION

☐ $30.00 U.S., Canada Mexico

☐ $72.00 International Membership

☐ $90.00 User Group Package

☐ $152.00 International User Group Package

☐ Are you currently a member of a user group?
☐ Would you like a list of user groups in your state?

Name _____

Address _____

City _____

State _____ Zip _____ Country _____

☐ Payment enclosed (U.S. funds only)
☐ VISA ☐ MasterCard Interbank No. ☐☐☐☐

Card No. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Card Expires ☐☐ ☐☐ ☐☐

INTERNATIONAL APPLE CORE™

Signature _____ Date _____

NO POSTAGE
NECESSARY
IF MAILED IN
UNITED STATES

BUSINESS REPLY CARD
FIRST CLASS PERMIT NO. 1491 SANTA CLARA, CA

POSTAGE WILL PAID BY ADDRESSEE

International Apple Core
908 George Street
Santa Clara, CA 95050

INTRODUCTORY MEMBERSHIP

Don't miss
our great
introductory
membership

NO POSTAGE
NECESSARY
IF MAILED IN
UNITED STATES

BUSINESS REPLY CARD
FIRST CLASS PERMIT NO. 1491 SANTA CLARA, CA

POSTAGE WILL PAID BY ADDRESSEE

International Apple Core
908 George Street
Santa Clara, CA 95050

INTRODUCTORY MEMBERSHIP

Don't miss
our great
introductory
membership

NO POSTAGE
NECESSARY
IF MAILED IN
UNITED STATES

BUSINESS REPLY CARD
FIRST CLASS PERMIT NO. 1491 SANTA CLARA, CA

POSTAGE WILL PAID BY ADDRESSEE

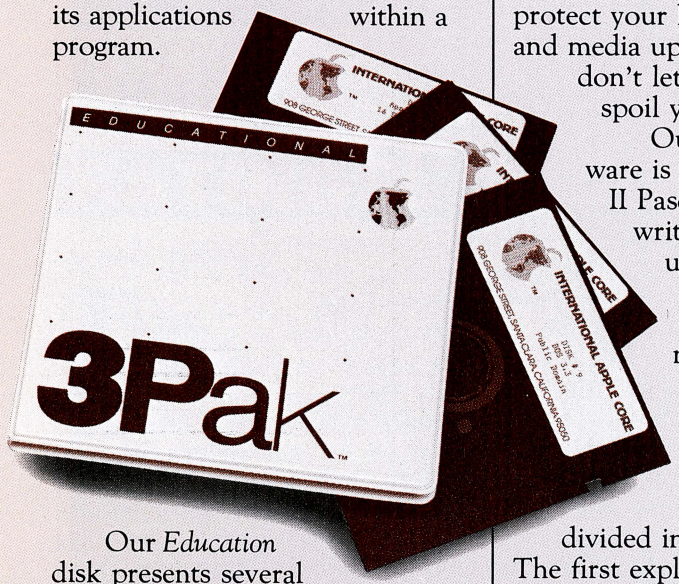
International Apple Core
908 George Street
Santa Clara, CA 95050

INTRODUCTORY MEMBERSHIP

Don't miss
our great
introductory
membership

the first in an ongoing series of theme packaged programs. It contains three disks offering programs to help you learn Applesoft and Machine language with a series of Math Tools.

If you are a beginner to Applesoft, our *Applesoft Tutorial* disk is for you. It offers you a step by step learning plan teaching the uses of syntax and its applications within a program.



Our *Education* disk presents several programs that are fun to learn with. And it's oriented to the younger set—ages 4 through 10. Children will enjoy Apple Array, Fred Fraction, Apple Barrel, Ad Drills and more. This disk contains an outstanding program for the handicapped called Voice Print. By using the cassette input at the back of your computer the child can actually generate graphic voice prints on the screen. An entertaining teaching tool, indeed. All of these programs use addition, subtraction and fractions. And the drills use full graphics. It is menu driven and easy for children to use.

Logo 3Pak™ is the second in our series of theme packaged programs. Written in the first computer language dedicated to education, it's friendly, powerful and easy to learn and use. Your children and you can perform simple projects in just the first session with Logo. This 3Pak contains the Logo Tool Kit, sample programs and documentation disks.

Support for your Apple and you.

Available to IAC members only. The first truly low cost personal computer insurance that doesn't rob you with heavy premiums or leave you with your floppies down.

For as little as $50 annually and no deductible, you can protect your hardware, software and media up to $15,000. So don't let uncovered loss spoil your Apple.

Our *Attach-Bios* software is intended for Apple II Pascal application writers, vendors and users. If you need to attach your own drivers or need more detailed information about the Pascal 1.1 Bios, this will help.

The program is divided into two sections. The first explains how you may use the attached utility. The second is general information about the Bios. All documentation is found on the disk.

CP/M→SOS Converter is a ready to run program for your Apple III. Now you can convert CP/M® disks to SOS® using your Apple drives. The disk contains the program's source code and character filters. And it doesn't require a softcard to run this program.

Invite your friends and save. (With twelve you get egg roll)

IAC offers your user group a special package. For $90 your group receives a full year membership with subscriptions to Apple Orchard magazine, and the Disks of the Month. Included is a listing of other IAC affiliated user groups world wide.

Individually or as a group you can't lose. So don't delay. Fill out the attached membership application on the left.

Start receiving your benefits today.

The companies we keep.

Here is a list of the corporations that support and sponsor the International Apple Core.

Apple Computer Inc.
Cupertino, CA

Brock Software Products
Crystal Lake, IL

Burtronix
Orange, CA

East Side Software Co.
New York, NY

Electronic Arts
San Mateo, CA

General Microcomputer, Inc.
Michigan City, IN

Hayes Microcomputer
Norcross, GA

Houston Instrument Division
Austin, TX

Howard D. Sams Co. Inc.
Indianapolis, IN

M & R Enterprises
Santa Clara, CA

Multi-Tech Systems, Inc.
New Brighton, MN

Nestar Systems, Inc.
Palo Alto, CA

Nibble-Micro-Sparc, Inc.
Lincoln, MA

Omega Microware
Chicago, IL

Source Telecomputing
McLean, VA

Sundex Software Corporation
Boulder, CA

Turning Point Software
Watertown, MA

Vagabondo Enterprises
Schaumburg, IL

Verbatim Corporation
Sunnyvale, CA

INTERNATIONAL APPLE CORE™

© International Apple Core
IACcalc and 3 Pak are trademarks of International Apple Core.
International Apple Core is Licensed by Apple Computer, Inc. to use certain of the latter's trademarks.
Apple, Apple II, Apple III and SOS are registered trademarks of Apple Computer, Inc.
CP/M is a registered trademark of Digital Research

Who'll buy what? (Or, Who's on first?)

The Apple Two market can be divided into a number of segments:

- The first is for entry level, for would-be programmers, hobbyists (yes there are still some left), and starter systems for the education market. The Apple //e, with 64k of memory and a disk drive will sell for about a thousand dollars.
- The largest piece of the Apple Two pie will be in sales of the //c. The consumer marketplace will be firmly approached by Apple, who'll be more than happy to supply a very desirable, 128k, 80-column, mouse-compatible machine with built-in disk drive for under thirteen hundred dollars. Software available for this machine goes back to Apple's earliest days, and virtually all the seventeen thousand programs that have been written for Apple Twos will run on this machine! Apple talks about millions of computers in this area!

  (Please note here that Apple will not be selling micros out of vending machines, but will require the same service and equipment repair turn-around from new dealers as they now demand of their current sales representatives. Some chain stores that are lucky enough to come aboard, as distributors/dealers, will probably establish regional repair centers and deliver equipment back and forth, with no further inconvenience to their customers.)
- At the high end of the market, Apple will service the small business/professional with a //e. This will be a full-blown business system, with 128k, 80-column, mass storage on the Profile hard disk, ProDOS, with its compatibility with the Apple /// line, a numeric keypad, or even CP/M; in any event there is a machine in a configuration to suit every application.
- The Educational market will continue to be approached with the //e, as a machine that offers multiple disking, networking, and an ever increasing base of software that becomes more prolific with time.

Temptation

The effort to get buyers to carry off the new //c will be the biggest promotion since the witch got Snow White to ". . .take the apple, Dearie!". In all fairness, Apple can't be compared to the wicked witch, but everything has been planned, down to the smallest detail, by a crew flushed with victory over the Macintosh's introduction.

It is also worth noting that the //c is the first product that has Apple's new design standards shown in fina form. The textured "feel", rounded edges, keyboar look, and off-white color (Apple Fog) are all the result a world-wide, secret competition held some time ag This new "look" will appear on Apple produ throughout the eighties. Coincidentally, that proj was called Snow White. The winning design conce was from the firm Hartmut Esslinger/Frog, fro West Germany.

The following steps have been taken to ensure success:

- The //c had its own introduction, on April 24th, at Moscone Center, in San Francisco. All authorized Apple dealers were invited to attend, and product samples were available for each dealer to take back home. Orders for //c's were taken at that time.
- Apple does not anticipate that there will be delays in getting products to the stores, as the Dallas //e plant ramped-up several months ago and has been at full production ever since.
- The //c will have an entire "image" of its own. Red and yellow packaging, with life-sized pictures of the product, will predominate. High visibility posters and ads will all have the same primary color imagery as the product's box.
- Everything required to get started, including an RF modulator, will be sold, as a single unit, in one colorful box. The dealer will either have stock, or not; a quick glance will tell both of you!
- An entire new set of manuals have been created. They will most certainly set a standard that will be used for the industry for years.
- Tutorial disks (five) are included with every //c package. A new user can work his/her way through the disks in any order. **Apple on Apple** will explain how to get started, and how the system and keyboard work. Games, such as **Apple 21**, have been included on **Apple at Play**. An **AppleWorks** tutorial and simulation will show some of the things that can be done with an "integrated program". Programming tutorials for the **BASIC** and **LOGO** languages are included as well. A **System Utility Disk** has programs that will perform copying and other disk related tasks.
- Apple will release updated products to capture the enhanced features of the //c. Apple LOGO will be a full 128k implementation with special routines to harness the mouse.
- Apple has provided software vendors with special opportunities to upgrade their existing products for the new machine. Programs that take advantage of the full 128k of memory and the mouse will set a new standard. Manufacturers of the other micros will be the only ones who don't like what they see!
- A flat panel "executive display" will be available, in the Fall. It will feature an 80 character x 24 line, low power, liquid crystal display. The display will be considerably faster than those available today. This peripheral will be highly portable, and will probably cost about six hundred dollars.
- The Scribe printer, will be a serial driven, thermal device, that will use plain (or bond) paper. ibbons will be available. This printer will be at about three hundred dollars. (Note that echnology that goes far beyond earlier "therprinters.)
- mber of hardware vendors are already working evices that will use the plug-ins on the rear of the Upgrades of cards that used to go inside the lier machines can now be placed behind the unit.

THE Whiz Kids

Apples Get High RATINGS!

by Lenore Wolgelenter

The television world of good guys vs. bad guys is catching up to the "real world" and script writers have decided that computers can be used to catch the bad guys. Not only have the writers in TV land discovered computers, they have also discovered what most of us have known for a long time. . .when you need help with computers. . .look toward kids. With that concept in mind, a television program was born. The Whiz Kids airs every Saturday night, at 8 p.m., on CBS.

I had the pleasure of meeting Maxwell Gail, star of the show, on location in Los Angeles' Griffith Park. Max's TV credentials go way back to "Barney Miller," in which he played "Wojo" for seven years. In addition to acting, Max writes songs, poetry and plays piano. His original career goals did not include acting. At Williams College in Mass. he majored in math and physics, but graduated with a degree in economics. After moving to Detroit, he taught both history and English, and proximity to the University of Michigan led to an MBA. Evidently, something was not quite right with all these academic disciplines as Max was still looking. With free time on his hands, he took his first acting class; simultaneously, he studied for the law boards. He never took the boards, because acting answered the questions and all his energies went into performing.

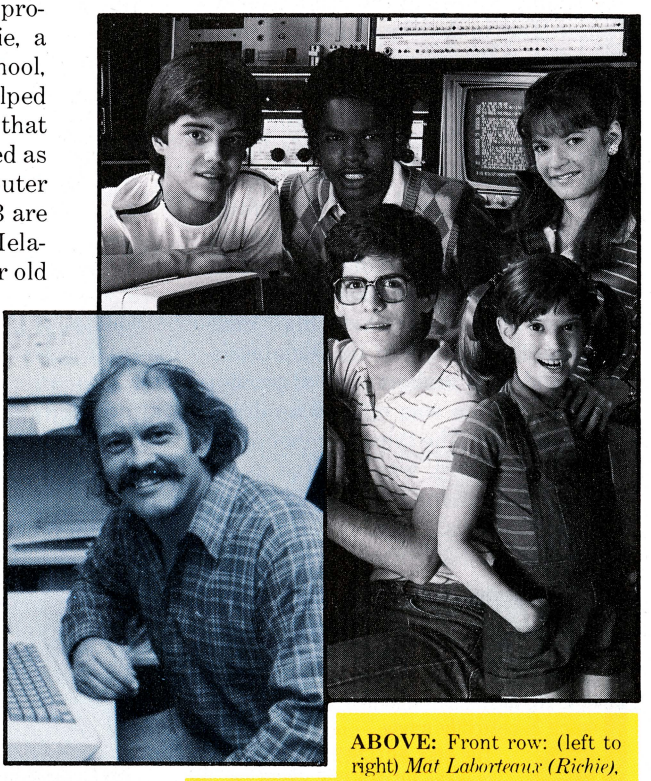
Max was hired for the role of Lew Farley. Farley is a friend of Richie's (the leading Whiz Kid) family and an investigative reporter. Farley is a tough character with an inquisitive mind and a set of values left from his college days in the sixties and early seventies. This makes him trusted by the Whiz Kids and brings adult experiences to the show. He goes to the kids for their computer expertise and in return, they come to him for opinions and friendship.

The "kids" on the show include Mathew Laborteaux, age 18; Jeff Jacquet, age 18, Todd Porter, age 16; Andrea Elson, age 15; and Melanie Gaffin, age 10. For the program, Mat plays Richie, a sophomore in high school, whose father had helped him build a computer that talks. Richie is portrayed as the brain and computer hacker while the other 3 are in supporting roles. Melanie plays the seven year old sister, Cheryl, and is portrayed more as a tag along, but she too is becoming more involved with computers.

Off stage, Mat is very involved with computers and is on the National Advisory Board for Atari Computer Corporation. Jeff is beginning to do some programming with the Apple, and Todd uses his Apple //e at home. Melanie is becoming expert at Frogger and learning to program. Between takes, all four kids can be found playing games with the offstage Apples, learning to program riddles for the others to solve. Every now and then, and with slow persistence, they are getting the non-computer crew members involved with Apples.

Max, as the reporter, Farley, uses a word processor on the show and turns to the "kid[illegible]" for [illegible]e hard-core computer wo[illegible] re[illegible]life, he is about to purcha[illegible]irst computer. As a poet he wan[illegible] processing system, and a s[illegible] for recording his songs.

During [illegible] stages of the show, M[illegible]s included scripts wh[illegible] realistically approached kids, portra[illegible] the sophistication of their lives [illegible] stified computers. The pro[illegible] is targeted towards middle-class families with a strong emphasis on education and achievement. To Max, and others I interviewed, this was an opportunity to present kids and the technology of today in a substantive manner. Instead, the writers and producers are going towards a more "solve the crime of the week" type of script, and away from the building of interpersonal relationships. As Max said: "Sometimes, the powers that be listen, and at other times high ratings come first."



ABOVE: Front row: (left to right) *Mat Laborteaux (Richie), Melanie Gaffin (Cheryl).* Back row: (left to right) *Todd Porter (Hamilton), Jeff Jacquet (Jeremy), and Andrea Elson (Alice).*
LEFT: *Maxwell Gail (Farley).*

The day I was on the set, the crew was filming a sequence at Griffith Park. In this sequence, Max, as the reporter, was driving his Mustang and was instructed to turn at the edge of the cliff and stop. Down at the bottom was a brand new sports car with the "victim". Later on in the filming process, the "bad guys" came along and realized that someone had killed their possible informant. As a neophyte to this type of production, it was fun to watch a show being produced. For every few minutes of TV viewing, there are repetitive "takes" to get it right. Watching the filming process was interesting, but it was not the reason for my trip to Los Angeles. Bob Garon, Max's agent, called the studio and got the people behind the computers out to the set.

I wanted to think it was my interview that induced them to go through the L.A. traffic in mid-afternoon. Then I discovered, with great pleasure, that it was really the lunch. One of the benefits of going on location is the wonderful food served to the crew. With tables set under the trees, Rick and Jim gave me some insight to their computer backgrounds. Ric Edelman has been in the computer business since 1975. He started selling Apples at the original Computer Mart in the city and was hired to train the secretaries at CBS to use computers. After working as an instructor, he consulted for the Whiz Kids program. This led to his job as the show's resident computer expert. Jim Michaels was an accounting major in college and a computer hobbyist. He graduated college in 1983. While attending college, he held various positions involving computers. He was hired as Ric's assistant and after a short time of proving himself, he too was offered a permanent position. The third member of the team, Kurt Borg, was credited as the mastermind behind the show's computer graphics. Kurt's background includes an MBA; his strong interest in computer graphics led to an exciting professional position.

Both Ric and Jim were quick to show their enthusiasm for the Apple computer. While their Apples were not shown on the stage very often, the three Apple //e's back stage are referred to as the "work horses" of the set. In one instance the Apples are communication tools for sending digitized photos over phone lines. As the onstage computers are not working terminals, all images and typing simulation that appears on your screen is being generated off stage by the Apple //e's. Individually Ric and Jim are responsible for programming the story points for on-screen viewing. As I needed translation for the trade jargon, story points are pieces of information or dialogue that the viewer sees. All of the work has been pre-programmed on the Apples and they serve as the control computers for what is (or will be) filmed. Keeping up (and ahead) is a challenge which all three computer people readily accept and enjoy.

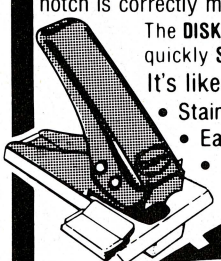
One particular show which generated excitement involved dolphins and dolphin sounds. For the dolphin sound effects, they were delighted to tell me all about their lucky find, "Dolphin Dialogue" from Syntauri Corporation*. (Neither of these people knew of my previous association with Syntauri.) We discovered a wonderful common interest and went off on a long conversation about the software and work being done with dolphins both in Florida, and at Marine World, in California. They were also delighted to find out the history of this program and more information about the alphaSynturi synthesizer. We traded anecdotes about our longevity in this industry, music, computers, the future for computers as the new tools for creativity and communication. Our conversation headed towards completion with a discussion of the Macintosh and the Lisa, the L.A. freeways and departure for another interview.

The final note came when Ric described with pleasure how he managed to get the show's producer converted to computers and to purchase a Lisa.

* Dolphin Dialogue is available from Syntauri Corporation (800) 227-1817 and proceeds go to the Delphind Research Institute, Key West, Florida.

FREE? DISKETTES

SAVE MONEY ! Apple II+/e users can use the diskette flip side, if another "write enable" notch is correctly made.



The DISK-NOTCHER by QUORUM quickly SOLVES that PROBLEM. It's like FREE DISKETTES!

- Stainless Steel Guide
- Easy Leverage Handle
- Clippings Catcher
- Square Notch Cut
- Black Finish
- Get THE BEST!

Certifix™

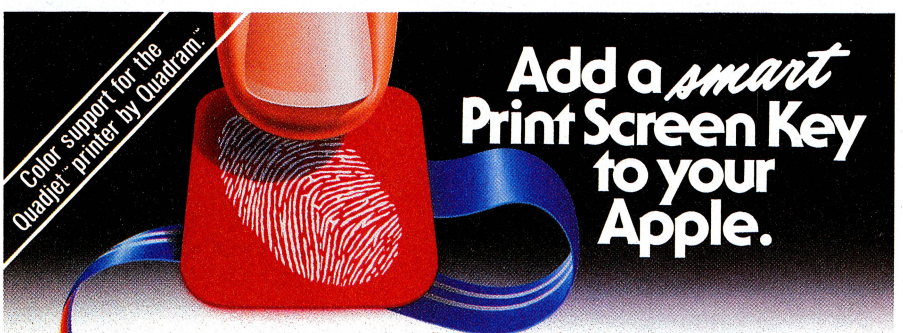
BE SAFE ! Your 'FREE' disk is CERTIFIED 100% ERROR FREE with CERTIFIX by QUORUM. It 'LOCKS OUT' DISK FLAWS and lets you use the rest. Displays status report & saves it to disk. Next, CERTIFIX automatically formats then offers to initialize with genuine Apple DOS 3.3 too. Great for testing economy disks. CERTIFY, FIX & INITIALIZE every disk with CERTIFIX !

100% Money Back Satisfaction Guarantee !

DISK NOTCHER is $14.95
CERTIFIX™ is just $24.95
ONLY $29.95 for BOTH!
Add $1.50 s/h • CA add 6½ % tax

QUORUM INTERNATIONAL, Unltd.
INDUSTRIAL STATION P O BOX 2134-A C
OAKLAND, CA 94614

Circle HelpCard No.30



Add a *smart* Print Screen Key to your Apple.

The FingerPrint™ parallel printer interface card lets you instantly print *any* graphics or text (even double hi-res), in color or black & white. And that's just the beginning!

- Puts *any* program on hold *any* time, including games.
- Built-in ROM provides lots of functions commanded by our button or your programs.
- 2K of user RAM lets you dream up new functions.
- Compatible with *any* parallel printer.
- Touch-sensitive button adheres to your keyboard.
- Comes with printer cable and a disk loaded with programs. Now with VisiCalc enhancements.

Seize control of your Apple II, Apple II+ or Apple IIe.

ORDER TOLL-FREE
1-800-528-6050
Ext. 2112
In Arizona: 1-800-352-0458

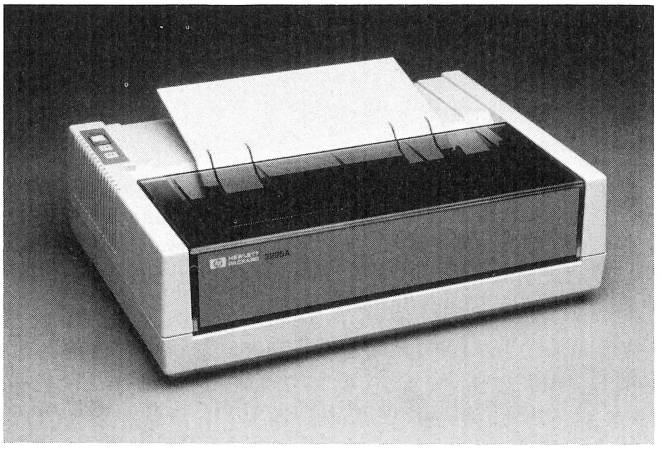
THIRDWARE COMPUTER PRODUCTS™
4747 NW 72nd Avenue, Miami, FL 33166

Apple, VisiCalc, Quadjet, FingerPrint and Thirdware Computer Products are trademarks, respectively, of Apple Computer, Inc., Visicorp, Quadram Corp. and Precision Software, Inc.

Circle HelpCard No.25

The Hewlett-Packard 2225C

An "Ink-jet printer" for under $500.00



ThinkJet, the personal printer from Hewlett-Packard.

Review by Gene Wilson

With **"THINKJET, the Personal Printer"**, Hewlett-Packard has stepped into the printer peripheral market for microcomputers. A great deal of thought went into this machine, and a long list of desirable features has been assembled into one package at a very reasonable price.

Until now, ink-jet technology was very expensive, and the very nature of spraying ink through tiny holes in the printhead was not reliable for machines that could sit for days (or even weeks) between uses. HP has changed that!

A Disposable Cartridge

At the heart of the system is the ink-jet mechanism, a combination printhead and ink reservoir, which can be removed by nearly anyone, in only a few seconds. No tools are required. When the cartridge runs out of ink, simply throw it away, and replace the entire mechanism. The replacement part, sold in a little tin cup, is available for under $10.00, and should last for about 500 pages of printing.

Installation

This remarkable printer is deceptively easy to "install" for use with an Apple computer (or more precisely, just about any computer). There are only eight switches that must be set before the machine's first use. Apple compatible switch settings are among the listed "standards". Setting a single switch allows the printer to work with most software which expects an Epson MX-80 or MX-100 printer.

It is important to note here that these switches are prominently placed on the back-side of the unit, in plain view; they can be easily checked or changed! There is nothing hidden deep inside that requires the help of a technician (or an acrobat).

The Computer Interface

It is up to the user to provide a cable and card. The first units must be used with a parallel interface. This is unfortunate, as Apple is moving away from parallel devices, and in its newest computer releases, is providing only serial ports for printer hook-up. HP will remedy this (potential) problem later this year by releasing a serial version.

Documentation

HP's usual attention to detail is followed closely with this product, as the documentation, in the form of a Owner's Manual, thoroughly explains all the unit's features. Requirements for various options are given for both standard and alternate switch settings.

The informative material even includes helpful statements, such as, "You cannot damage your printer by setting the switches incorrectly." Unlike some manufacturers who've turned printer set-up into a "mystical" experience, HP encourages experimentation.

Two Graphics Modes

The HP 2225C prints graphics at 96 dots/inch in both horizontal and vertical directions (for a print region 640 dots wide), or at 192 dots/inch in the horizontal direction and 96 dots/inch vertical (which gives a print region of 1280 dots in width). Several versions of a graphics program are given in the documentation.

Paper Requirements

Standard 8-1/2" x 11" (or European size A4) paper, in either single sheet or fanfold, works well. Best quality is obtained with ink-jet paper, which costs and weighs about the same as bond. Ink-jet paper, in single sheet or fanfold, can be ordered directly from HP, or local HP dealers (worldwide).

The Ink-Jet Printer's Features

Key features include:

- 150-character-per-second print speed.
- 11 x 12 dot-matrix characters.
- under 50-dB noise level when printing (Very quiet!).
- print pitches: compressed, normal, expanded, and expanded-compressed (From 6 to 21.3 characters-per-inch).
- print modes: normal, bold (enhanced), underlined (all at 150 cps).
- 6 or 8 lines-per-inch.
- printer weighs less than 6 lbs.
- printer size is 11.5 x 8.1 x 3.5 inches.
- Eight switch selectable international character sets.

MAC-INATIONS

by Scott Knaster

Mac Marches On

Last time we discussed some of the products planned for Macintosh by Apple and by Microsoft. This month we'll branch out and talk about more of the goodies that are being developed for Mac. A little hint: most of the information about these things comes from press releases issued by the companies that are making them. This doesn't mean that the information is false or unreliable; it does mean that features and specifications can change between the announcement and the availability. With that all-important warning in mind, let's dip into the goodies bag.

From Apple:

Apple Modems

Hey, Apple's got modems! There are two, called simply Apple Modem 300 and Apple Modem 1200. As you probably guessed, the differences between them are in price and performance. The 300 runs at speeds up to 300 bits per second (bps), while the 1200 can handle the lower speeds plus 1200 bps. Both models plug directly into the back of the Mac using the Apple-supplied cable that comes in the modem's accessory kit.

Both modems look the same from the outside. The outside, by the way, is an Apple-beige box, 1 1/4 inches high, and just deep and wide enough to fit perfectly under a desk phone. The only indicator on the front of the modem is the power light - - -no row of madly blinking LEDs with mysterious two-letter abbreviations.

If you're interested in specifics, the 300 is a Bell 103 type, while the 1200 is Bell 212A without synchronous mode. The modems are Hayes-command compatible and they feature manual or automatic originate and answer, automatic dialing, full or half duplex, several different data formats, and lots of other features. If you're a typical Mac user, you know that hardware dances to the tune that software sings, so you'll probably never need to know most of those features - - - just that they work with your software, such as MacTerminal.

Carrying Case, Security Kit, Disk Box

These are accessory products? Well, they're listed here for the sake of completeness. The carrying case is padded and has both hand and shoulder straps. The security kit attaches the Macintosh to some other object, preferably large and heavy, and ensures that no one will steal the Macintosh without also taking the card table, solid oak desk, or brick wall that it's hooked to.

The disk box sells for $49 and contains ten microdisks that work in your Mac. You can also use disks made by other manufacturers, but if you do that, you probably won't get beige disks!

AppleLine

Want to tap in to your IBM mainframe, but don't want to get another 3278-2 terminal? AppleLine, along with your Macintosh, can take care of you. The AppleLine box goes between your Mac and a 3274/3276 cluster controller and presto, instant Big Blue connection.

From Davong Systems:

Hard Disk System

If you need more (LOTS more) storage for your Mac, Davong will offer hard disk drives which range in size from 5 megabytes to 32 megabytes. They're also offering a streaming tape system to back up the big drives, just in case.

Local Area Network

This baby will let you hook up over 200 Macs and let them exchange information, utilize common storage, and share printers. It is capable of transferring data at the rate of 1 megabit per second. Apple's Bill Atkinson points out that 1 megabit is the same as 128K 8-bit bytes, or the entire RAM capacity of the Macintosh.

From Software Publishing Company:

PFS File

This venerable program was one of the first file managers to be commercially available for the Apple, and now Software Publishing is working on a Mac version. When it first appeared, PFS File set new standards for ease of use while retaining power, so it should be interesting to see what they come up with this time.

PFS Report

PFS File can print out information from the files that you enter, but only in a limited way. PFS Report lets you get fancy with your output, allowing you lots of different formatting options for your printed copy.

Apple reports that there are now over 100 companies working on things to be used with the Macintosh. We'll keep watching as new stuff comes along.

Techie Talk

This month we're going to talk about QuickDraw, the graphical heart of Macintosh and Lisa. QuickDraw, of course, is the tightly wrapped chunk of code that creates the screen images for Apple's 68000-based computers. QuickDraw, created by Bill Atkinson, has been acclaimed for its remarkable speed, power, and compactness, giving personal computers the display powers of much bigger, much more expensive machines. However, there hasn't been a lot of information published about the way QuickDraw looks to a programmer. Not that Apple has been keeping it secret: both the Lisa Pascal manual and Inside Macintosh contain very complete documentation on QuickDraw, but access to those documents hasn't been easy for the general hobbyist/hacker. So, we now present an introduction to QuickDraw.

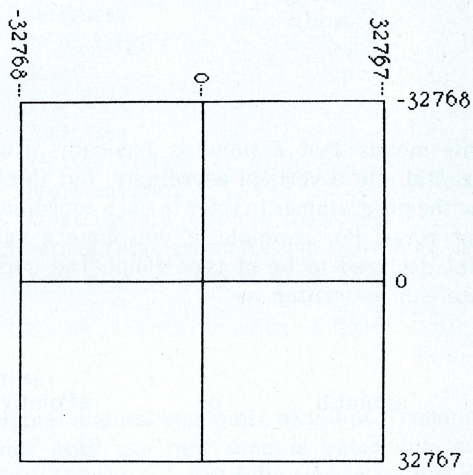
Math Major

QuickDraw sets out some fundamental concepts that are based on firm mathematics. One of the most basic is the concept that all QuickDraw drawing is done on a very large grid called the coordinate plane. To visualize this plane, start with two lines, one horizontal and one vertical. The intersection of the lines is the center of the grid. Now start adding more horizontal and vertical lines at the rate of 72 lines every inch. Keep adding lines - - - a lot more lines - - - until you've got 65,536 horizontal and 65,536 vertical lines. Sixty-five thousand lines? Yes, the QuickDraw grid is very large, but finite.

Of course, the Macintosh screen is only big enough to show a small part of this immense plane. Displaying the entire grid would fill a screen more than 75 feet long and 75 feet high!

Now that we've got the grid, we number each grid line. The lines we started with, the ones whose intersection forms the center, are numbered 0, the lines to the right and down are numbered from 1 to 32767, and the lines to the left and up are numbered -1 through -32768 (see figure 1).

Figure 1 The QuickDraw Grid



AMPERSOFT

Utility Routines Library for the Apple II/IIe

There you are, sitting in front of a dead screen, wondering if your Apple has broken down or if your program has gone to sleep.

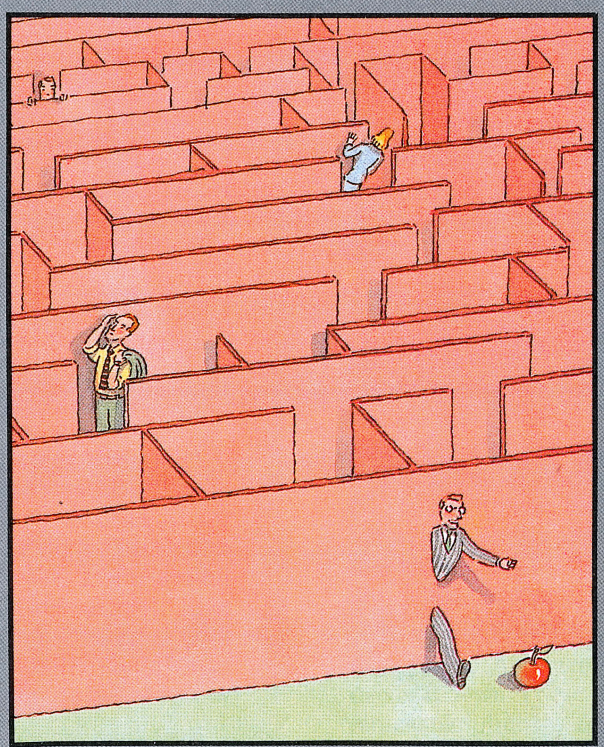
If you're running into slow executions and long and frequent pauses, AMPERSOFT will give you a lot more time to be creative. It's an entire library of Applesoft enhancements that run at machine language speeds.

If most programs take away memory, this one gives it back. AMPERSOFT is the only Applesoft enhancement package that puts DOS and itself in the upper 16K of a 64K system, giving you a new usable gain of thirty percent instead of a net memory loss.

And AMPERSOFT is a pleasure to use. All the utilities are accessed from within your Applesoft programs by inserting simple, one-line statements preceded by an ampersand.

They let you Sort sixty times faster than Applesoft. Collect garbage two to three hundred times faster. And format reports to the screen or printer any way you want them.

If you're tired of waiting for your Apple, you don't have to wait any more. AMPERSOFT is here.



Stop Waiting for your Apple.

SPECIFICATIONS:

SPEED ADVANTAGES:
Garbage collection — 300x faster.
Sorting — 60x faster.
Disk array Sort/Recall — 16x faster.

OTHER FEATURES:
30% more user program memory.
Matrix arithmetic.
Selective array clear.
Full PRINT USING formatting for numbers and character strings.
Two-key disk commands.
Compatible with GALE, PLE, FID, MUFFIN, COPYA and all DOS Toolkit programs.
Allows concurrent residence of Applesoft and Integer BASIC with 32K RAM card, extra 16K card, or ROM card in another slot.

AUTHOR:
Cornelis Bongers

SYSTEM REQUIREMENTS:
At least 64K, Applesoft, DOS 3.3 and one Disk Drive. Operates with all Applesoft-Compatible computers including the Apple IIe and the Franklin ACE. Apple II Plus requires RAM card — 16K or larger.

PRICE:
$49.95 postpaid

ORDERING INFORMATION:
If your Apple dealer doesn't have AMPERSOFT you may order directly by mail or phone. (Mass. residents please add 5% sales tax.) We also accept VISA and MasterCard.

MicroSPARC Inc.
10 Lewis Street, Lincoln, MA 01773 (617) 259-9710

Circle HelpCard No.21

Copyright © 1983 by MicroSPARC Inc.
Apple is a registered trademark of Apple Computer Inc.

Every place where grid lines intersect forms a point. In case you're counting, that makes over 4 billion unique points, each one referenced by a pair of coordinates. QuickDraw defines a point with the following Pascal data structure:

```
type VHSelect  (V,H);
     Point     record case integer of
               0 : (v : integer;
                    h : integer);
               1 : (vh : array VHSelect of integer)
               end;
```

This means that a point is basically two integers, a horizontal and a vertical coordinate, but the two variants allow the programmer to refer to each coordinate in two different ways. For example, if you have a variable called aPoint declared to be of type Point, the horizontal coordinate can be written as

aPoint.h or aPoint.vhH

Why bother doing it this way? It allows greater flexibility in working with points and other data types which are built from points, such as our next subject: rectangles. Rectangles are defined by any two points. The first point is always the top left, and the second is always the bottom right. This means that if you want your rectangle to enclose any area, the lower right point has to be, uh, to the lower right of the first coordinate. Otherwise you get a thing called an empty rectangle, which is no fun at all.

The Pascal data structure for a rectangle looks like this:

```
type Rect  record case integer of
             0 : (top :    integer;
                  left :   integer;
                  bottom : integer;
                  right :  integer);
             1 : (topLeft : Point;
                  botRight : Point)
           end;
```

Once again, we've got a variant, which allows different ways to refer to the rectangle. Although a rectangle is basically four integers, its pieces can be looked at many ways. For example, the vertical coordinate of the bottom right point of a rectangle called aRect can be either

aRect.bottom or aRect.botRight.v or aRect.botRight.vhV

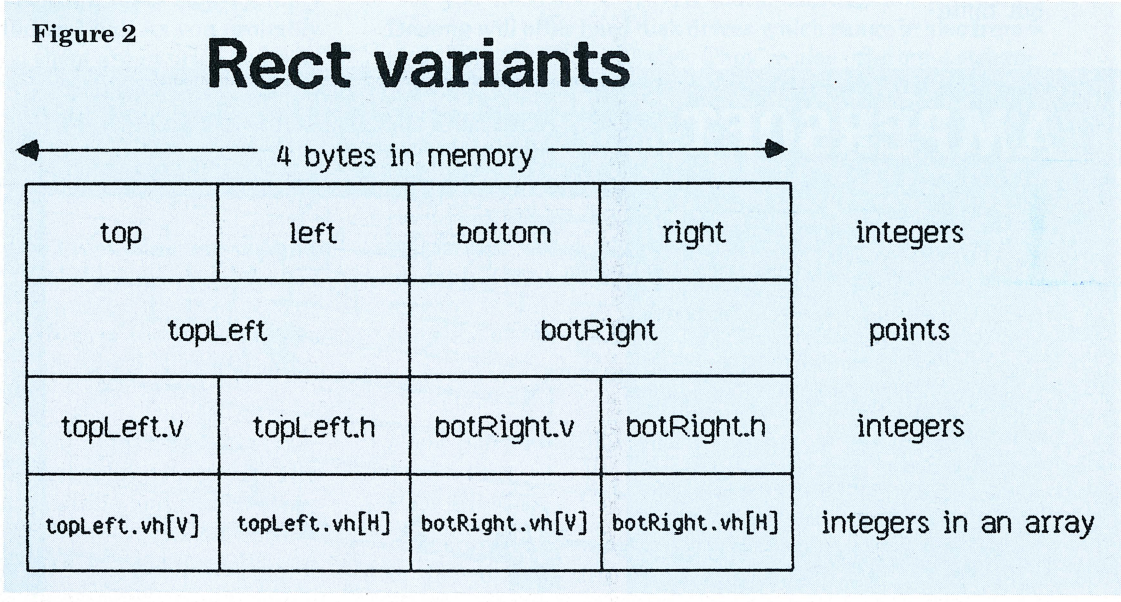
depending on how your program needs to see it. They all refer to exactly the same integer in memory. Similarly, your program can refer to the horizontal coordinate of the upper left point of the rectangle with either

aRect.left or aRect.topLeft.h or aRect.topLeft.vhH

To get an idea of what a rectangle (type Rect) looks like in memory, see figure 2.

Rectangles are used extensively in QuickDraw. However, it's often necessary to define more complex chunks of real estate, such as circles or ovals, polygons, or even an arbitrary collection of points and spaces that may not even be connected. QuickDraw can deal with all of these with amazing speed. For evidence on just how fast and versatile QuickDraw is, just watch your Macintosh work. All the icons, windows, scroll bars, drawings, and even the text you see is being generated by QuickDraw.

Figure 2



That gives you a basic introduction to some of the concepts QuickDraw uses. One other important point: although the QuickDraw data structures are given in Pascal form, that doesn't imply that use of QuickDraw is limited to Pascal programmers. Everything that QuickDraw does can also be used from assembly language programs, and many high level languages for Macintosh (such as Microsoft BASIC and Apple's Pascal and BASIC) will allow at least partial access to these wonderful routines.

Next time around we'll dig into more of QuickDraw and, of course, talk more about what's new in the Macintosh world. Until then, keep those mice rolling!

Format II

Review by Neil Lipson

Kensington Microware Ltd.
919 Third Ave.
New York, NY 10022
Price: $ 150.00

This review is likely to be the easiest one I have ever written, as I'm using the subject of the review to do it. The word processor is *Format II* by Kensington Microware. I have been using it now for about eight months and have found it to be easy to learn, with more features than most word processors, and reasonably priced. The entire package is incredibly flexible with so many features that even after eight months I feel I have only scratched the surface.

Some of the features include extremely easy to use commands, the fact that the files created are normal text files, and page oriented processing. Underlining is easy, and printing is accentuated with absolutely true proportional spacing for letter quality printers. One fantastic feature of the program is that it is not copy protected, which will allow it to be used on a hard disk. Quite a bit for the relatively low cost of the program ($150).

The program will accept any one of about a dozen 80 column cards. It works on the Apple II Plus, //e, Franklin Ace 1000 and Ace 1200 to name a few. It automatically checks the cards and computer and sets itself up. Booting does take about a minute so you may want to speed it up with Diversi-DOS, but be careful with many speed-up programs as they sometimes have incompatibilities with some software. Format did act up on some of the fast DOS utilities (like the old Diversi-DOS).

The commands are mnemonic (as opposed to "pneumatic" like most other word processors). Think of the first letter of the command and hit the keyboard. Below is a list of a few commands:

```
A     Align numbers
B     Blank out text
C     Center text
D     Delete text
E     Edit
F     Find
G     Go to buffer
H     Horizontal slide
I     Insert
J     Justify
K     Klose (Close up text at cursor)
L     Load
M     Move cursor down
N     Move cursor up
O     Options
P     Paragraph
Q     Quickscan
R     Reset Margins
S     Start
T     Tidy
U     Underline
V     Vertical Slide
W     Whole document
X     X-out (delete a single character)
Y     beYond (move cursor beyond a block of text)
Z     Move cursor to end of block of text
```

The Manual

The original manual was quite nice, but Kensington told me to wait until the new manual came out, and it is outstanding. First it is beautifully typeset in two colors to highlight certain areas. This must have cost them a fortune, but it makes it 150% more readable.

The manual is broken down into a few parts with a FAST START section, and sections on USING FORMAT II, REFERENCE, and APPENDICES/INDEX. A professional typeset manual, in my opinion is easier to read and is more relaxing; it's easier to find important portions of the manual. The important parts are highlighted in blue, so you can skim through it quickly and find what you are looking for. It is spaced out so it doesn't look crammed. Titles are printed in bold and catch your eye when you scan for a particular topic. The manual starts out easy (really easy!) and you gain confidence quickly, which is important for a program like this. After about an hour, you feel like an expert.

The Program

The program boots up in 40 columns and loads in the modules individually. Then it zips into the 80 column format and gives the command options at the top of the screen. These include Load, Save, Replace, Delete, Catalog, Initialize, Boot, New Page, Old Page, Print Text, Mailing List, and Fix Pages. If you're starting out on a new page, type the letter N. The program will ask you if you want to change the number of lines on the page, or leave it at the default setting by just hitting «RETURN». You then jump into the clean page and just type away.

To go back into the main directory, hit Control-D, and back you go. A Control-K moves the cursor up and Control-J moves it down. These are one of the few keys that do not use mnemonics, but the Apple //e keyboard does utilize the up and down arrows. The Franklin 1200 also has these arrows.

I referred earlier to a page oriented word processor. This simply means that you type one page at a time. It took a little getting used to this as I used to use the full document word processors. However, there is an advantage. If you bomb a page, you only lose that one page, not the entire document (how many of you *really* back up your work every 15 minutes?). You can re-arrange the pages if you want. Try this with an entire document with another word processor. You can pull certain pages out and combine these with other pages and create custom reports by inserting and pulling pages at random, as needed. It is another aspect of the total flexibility.

The speed of the program is also excellent. How do I know? Well, for many months I used it with the Accelerator. Recently, I removed the Accelerator from the computer and didn't notice any difference in speed (it is that quick). Searching, printing, you name it, they all ran fast. I know that the program went through many revisions, but I have yet to see a program that was perfect from the beginning. It could use one feature. My Diablo printer can print much more than 80 columns, and it would be nice now that I have the Ultraterm to be able to put 132 columns on the screen and then print this wider line. At present, Format II can only handle a maximum of 80 columns, but this is sufficient for 99% of most applications.

The more that I used the program, the more I found out about it. For example, I was trying to get my Diablo 1640 to print in bold face. The printer installation says that the PAUSE 6 will put the printer into the bold face mode. However, when I tried it, it didn't work. It turns out that a PAUSE 6 will send an Escape-O to the printer. The Diablo 630 recognizes this as a bold face command, but the 1640 has never heard anything about this. If you had the word processing option in the 1640, it would have then acted just like the 630 in this respect, but mine did not. On reading the manual more thoroughly, however, I found in the advanced printing section that all this can be done in software. I therefore went into the printer installation section and followed instructions. By putting the printer into the proportional spacing mode, changing one parameter, hitting the PAUSE 6, it worked perfectly. It appears that this word processor does just about everything, but to find it out you must read the manual (I know, we all hate manuals).

Every time I used it, I found another feature. When testing the program with the new Franklin Ace 1200, I found that the program automatically takes advantage of the Franklin's word processing keypad. To put this into operation, hit Control-PAUSE, and then the numeric keypad becomes a word processing keypad. It was wonderful. The four arrow keys are in a real square, so you do not have to look at the keypad to do your thing. The five key has a small dot in it so you can orient yourself instantly. One of the big complaints on the Franklin was the lack of this function, but with this software the problem is solved.

Once I mastered the program, I tried all kinds of tricks. First I hooked up the Interactive Structures Pipeline to the printer and tried dumping a few pages of text to the printer. The program dumped to the buffer in only a few seconds per page, so with the right buffer you can send all of your print-

Announcement Announcement Announcement Announcement Announcement Announcement Announcement Announcement Announcement Announcement Announcement Announcement Announcement Announcement Announcement Announcement Announcement Announcement Announcement Announcement

APPLE ORCHARD HAS MOVED

TO

20823 STEVENS CREEK BLVD.

CUPERTINO, CA. 95014

(408) 252-0902

ed material to the printer and the computer comes back fast. Why am I mentioning this? Because some word processors are so slow that even the printer must slow down to accept the information. The old EasyWriter was a good example; with that program a buffer would have been completely useless. (*Yes, but I must point out that Neil was one of the last converts from Easywriter . . . about eight months ago, I think—PCW.*)

I was somewhat annoyed by Format II's long booting process, so I used the *latest* Diversi-Dos and that solved the problem. When I used the original Diversi-Dos with the original Format II, the program didn't run right. However with the improvements with both programs I have found no problems. I like one feature of the program most of all. It is *not copy protected*! So what's the big deal? Well, you can put it on a hard disk. You can put it on a disk emulator. You can, if you want, modify the program if you like, which some of my friends have done. Because of the professional and mature attitude Kensington Microware has, I have no reservation in recommending this program.

The Mail System

Believe it or not, Format II has an excellent data base in it to store and manipulate many different kinds of information. This is similar to a card file and contains a number of sorted index cards. Format II is set up in a similar fashion.

For those of you who are interested in specifics, here they are. Format II will handle labels up to 15 lines long. An entry may be as long as 16 characters long. The mail system can handle as many as 510 records with up to 16 fields. You can put in any information that you want. For example, suppose you want the system to handle two addresses, one for business and one for home. It can handle that without a problem. You could put 10 phone numbers in the system if that is what you desire. There is a "find" feature that allows you to scan forward or backward. Sorting can be done alphabetically by using any field as the key upon which to sort. You could sort by company name or by customer last name.

Needless to say, this portion is fantastic for printing mail labels and printing different letters to different people. Just plug in the appropriate information and away you go. You can create a mail system document. The mail system will pull together information from labelled fields and from text created by the Format II editor to produce form letters, mailing labels, and other automatically produced documents. When Format II prints information from a mailing list data base, it looks for words in the document text that are identical to labels of fields in the mailing list. When the program finds such a label in the text file, it will print the entry in the corresponding field of the current record, instead of printing the label itself. For example, if your text contained the word "!state" and the current record entry for "!state" was "MA", Format II would print "MA" in the body of the text. It is that easy.

Printer Installation

The wonderful thing about having this program not copy protected is that you can make a disk for your letter quality printer, one for the dot matrix, and one for special situations where you need special characters. You are not forced to "buy" backup diskettes for each configuration, at high prices. However, you could put over a dozen installations on one disk if you like.

The trick to setting up the printer properly is to use the correct printer codes. These are covered in detail in the printer code section of the manual. You merely pick the appropriate printer and plug in the proper parameters. The top selling printers are covered. You can modify the parameters if you want. There is also a special section on advanced printing. The Franklin Ace 1200 is covered in a special appendix, and nothing is left out. ASCII charts are also included.

A special section is dedicated to proportional spacing. It is a shame that most word processors do not take advantage of proportional spacing for letter quality printers. There are special predefined installations that you can install which are provided for your convenience.

It's worth a few paragraphs to go over this in some detail. When you have successfully installed a proportionally spaced character table and the appropriate commands for your printer, and you have set parameter 04, JUSTIFY, to "PS" of "Justify", there are several features you may call on with special dedicated printer codes. Printer code 6 allows you to customize your boldface printing; printer codes 7, 8 and 9 are helpful in printing columns of tables.

Overstrike (printer code 6, parameter 22) can be accomplished if you enter "0" as the first character of the sequence in printer code 6. The second number (which must be between 1 and 9) tells the printer how far the print head should move before the second strike of an overstrike. For example, "000/001" wil make the second strike 1/120th inch to the right of the first strike. The larger the second number, the heavier the "bold" character will appear. A little experimentation will quickly show you the best setting for your particular printer. Insert a printer code 6 before and after the text to embolden. Bold printing will automatically be turned off at the end of the line, which is a nice feature.

A special feature is also included to allow you to change print wheels in the middle of the printing process. This works as follows: Embed a character in your text which tells Format II to wait until you press a key. Enter the decimal ASCII equivalent of the character you wish to use into parameter 28, the PAUSE character. Now whenever that character appears in your text, printing will stop until you have pressed a key. Be careful not to use this character elsewhere as a printing character or you will have problems.

Interactive Structures has come out with their new revision of the PKASO card called the PKASO U. You can load up to three different fonts into the card; any three fonts that you desire. You can then switch between fonts on a single sheet of paper, or even between words if you like. You can change back and forth between different languages with no problems. The combination of Format II and the new PKASO U card is unbeatable for people who want this feature.

File Manipulation

As we noted, Format II creates normal ASCII text files on disk. This means that you can load in files from other word processors. You can also send the files over a modem with any of the high quality programs such as ASCII Express. Format II also has a feature that allows you to take a bunch

of short files and turn it into one large file, or vice versa. The mere fact that text files are used makes life easier for many uses. I loaded in a VisiCalc file to see what it looked like, and was amazed to decipher VisiCalc in this fashion. I could even edit all of the spreadsheet cells if I wanted.

Here's a feature not covered in the manual. There is nothing to stop you from turning a normal BASIC program into a text file and loading it into Format II. Once it is there, editing is a breeze. You can change all the HTABs to TABS, or PRINTs to LPRINTs. There is an excellent global search and replace routine also.

Resetting Margins and Adjusting Text

You can at any time reset the margins with a Control-L or Control-R. You can also center text with the Escape-C command, and you have the option to center (or "centre", as the British-born manual says) by line, paragraph, text or all. You can even change settings in the middle of the page and reset them later. I have a problem in forgetting the left from the right as the "R" is on the left hand side of the keyboard and the "L" is on the right, so I always hit the wrong key, but this is my problem (many people have always said that I didn't know my left from my right anyway). You can align columns of numbers with the align command, and this too gives you a short menu with the options: Left, Decimal point, and Right.

The K command is used to close up empty spaces, which is nice after you have inserted some information and want to close things up. There is also a vertical slide command that lets you open and close lines, but you have to be careful that when hitting the minus key to close up, that you do not hold down the key too long or you will start to erase some line of information.

Overflow Buffer

The overflow buffer is the part of Format II which protects you from losing text when you have more text than will fit on the current page. The overflow buffer can only safely hold 80 lines of text. Trying to insert more than this will cause the excess characters to fall under the computer, so it's a good idea to have a small tray there to catch them. Exceeding this limit can lead to a loss of text, a loss of appetite and consequently a loss of weight (when you realize that much of what you typed is lost), all culminating in a loss of temper.

FIX PAGES

To adjust page lengths throughout a whole document, select F for "fix pages" from the Main Menu. The effect is as if you combined all the pages with the same document name into one single large page, and then re-divided that single page into smaller pages. You may now place the new page boundaries wherever you wish.

There are two paging modes, Automatic and Manual. The automatic mode makes all the re-formed pages the same size, whereas the manual mode allows you to choose the location of each page boundary. In the automatic mode, Format II scans the drives specified in the installation, including the default drive, for pages belonging to the specified document. The program then adjusts all pages to the required length, by moving lines of text from one page to another.

The manual option allows you to place page boundaries wherever you like. The screen display will change to look like that of the Editor. The text of the pages stored on disk will be displayed, along with a row of dashes in the middle of the screen. These dashes represent the location of the page boundary. All text above the line will be on one of the "new" pages, all text below it will be on the next. As in the Editor, the line display at the top left shows which line the cursor is on and the number in square brackets shows the number of lines on the page. For each page this will initially be the target number.

Conclusion

I have touched on only a few features of Format II. I will make the blanket statement that this is by far the best word processor that I have ever laid hands on. Period. As far as I am concerned, it is so far ahead of the others, there is no second place. You can almost learn it with only an occasional glance at the manual, which is the way it should be. Kensington has no reservations in improving the program, which they do on a regular basis when new printers or 80 column cards come out. The manual alone must have cost them a pretty piece of change.

The power of Format II is limited only by your knowledge of the program. If you purchase the program, it would be wise to obtain it from a very knowledgeable dealer. If you cannot find one, the program is sold through ECS, Inc. at the following address:

ECS, Inc.
808 Colony Road
Bryn Mawr, PA 19010
215-527-1015

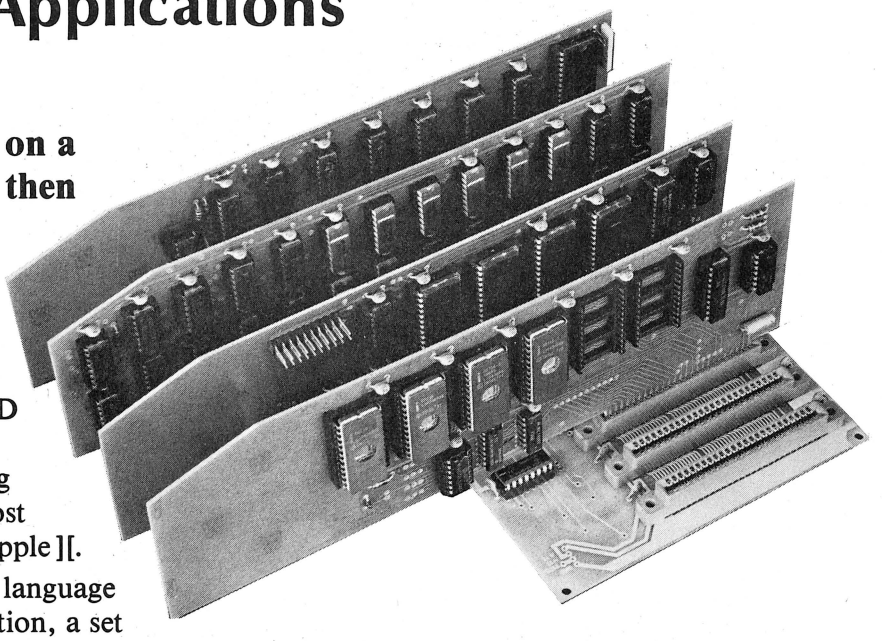
I usually do not endorse specific distributors or dealers, but with the sophistication of this program it is nice to be able to call up an "expert" to find out particular parameters or whatever. The people at ECS specialize in this piece of software and are knowledgable with almost every aspect of it, everything from the cheapest dot matrix printer to the top of the line Diablo. If your local dealer knows the product well, that's best.

The list price of the program is $150. For this particular program, I would not recommend getting the lowest price, but getting the best service and dealer support, as in some cases you will need the expertise. Besides, for the few extra dollars you spend, it is well worth it to get the answer instantly rather than pulling your hair out. Kensington Microware will usually recommend that the dealer provide much of the question answering, so choose your dealer carefully.

What improvements could be made? Very few, but if it took advantage of the new Ultraterm from Videx, and could print lines longer than 80 characters it would be nice. However, very few people need this feature, and if I were hard pressed, the only situation I can think of is with attorneys and special legal contracts (*or some typesetters, unfortunately—PCW.*). Another addition that would be nice would be a single command to go to the beginning of the text. I strongly encourage Kensington to keep up the good work and introduce more professional software of the same caliber as Format II.

APPLESEED™

Apple Compatible Hardware for Dedicated Applications



Design and program a system on a standard Apple computer and then market it with the low-cost APPLESEED system...

Designed for use in systems where a full Apple computer may not be necessary or desired, the APPLESEED Bus system retains all the essential features of an Apple system, including mother board compatibility with almost every plug-in board available for the Apple][.

Programs are developed in assembly language on a standard Apple][. Upon completion, a set of EPROM's are blown and inserted into the APPLESEED Bus system, which then takes control of program execution.

You buy only what you need for your application; gone are the built-in keyboard, the consumer-oriented packaging and graphics subsystems. Cost, size and power consumption are substantially reduced while flexibility is greatly increased. Compatibility with a multitude of sophisticated programming and hardware add-ons, widely available for the Apple][, has been fully retained, providing a wide range of options for designing customized systems. (Applesoft® PROM's are not included.)

A sampling of APPLESEED Bus components:

CPU BOARD The 6502 has been removed from the mother board and included in this card, which also contains the clock circuitry for the system.

64K RAM BOARD 64K of dynamic RAM with provision for control to be used in the normal Apple][conventions; deleting COOO-CFFF and software control over the DOOO-FFFF area.

EPROM BOARD Jumper selectable for 2716 (EPROM) or 34199 (PROM); blow 2716 assembly language programs and then run them in this EPROM board. Jumpers allow selection of software on/off, initialize on/off and other controls.

UART BOARD Software/hardware select all standard EIA baud rates. The board supports four 6850 UART's which allow four independent input and output EIA lines. Each UART is fully programmable for parity, bit length, baud rate, etc.

UNIVERSAL BOARD The APPLESEED Universal board contains the following: One 2716 socket for an F8 PROM, one 2K × 8 bit RAM (0-7FF), one UART channel for serial communications, 8 parallel INPUT lines (TTL), 8 parallel OUTPUT lines (TTL), device decode for one additional standard slot-dependent board, support for standard Apple][style keyboard, and a power supply connection. Each feature is independent and any combination may be used simultaneously. The Universal board is designed to be used with the APPLESEED CPU board.

TEXT BOARD The TEXT board is designed to add the conventional TEXT (page 1 and page 2) to an APPLESEED system. The board generates composite video to plug into a standard monitor or T.V. modulator. The board provides 40 columns × 24 rows in each page and is not slot dependent.

MOTHER BOARD 10-slot motherboard is fully compatible with most Apple add-on cards currently available.

Please call or write for prices and more detailed information on these and other APPLESEED Bus products.

DOUGLAS ELECTRONICS 718 Marina Blvd. • San Leandro, CA 94577 • (415) 483-8770

APPLE is a registered trademark of Apple Computer Corporation

/// E-Z Pieces

Suggested Retail Price: $295
Haba Systems, Inc.
15154 Stagg Street
Van Nuys, CA 91405



Review by Albert Chu

Integrated software. This latest buzzword in the personal computer industry is emerging everywhere -- in computer stores, magazines, and trade shows. In fact, "visitors to the West Coast Computer Faire," reported the San Francisco Examiner last March, "(were) astonished at the number of new integrated software products now on the market."

Integrated software allows you to perform several applications with one program, letting you transfer data from one application to another. For instance, the popular 1-2-3 program from Lotus Development is an integrated spread sheet, graphics, and data base program. With it, you could enter information in your spread sheet model, select certain data from the model using the data base function, and then have pie charts drawn from this data using the graphics function. Thus, instead of buying separate software packages for each application, all you need is one integrated software package.

Wouldn't it be nice if there were an integrated software package which combined the three most used applications for personal computing: word processing, database management, and spread sheet?

/// E-Z Pieces, an integrated spread sheet, word processing, and data base software, was developed for the Apple /// by Rupert Lissner. (A version of /// E-Z Pieces available for the Apple //e is called AppleWorks.) Many Apple /// users may already be familiar with another one of Rupert Lissner's software packages, Quick File ///, a database management program.

```
Disk: Drive 1                    ADD FILES                    Escape: Main Menu
 ____________________
|  Main Menu         |_____________________________________
|  ____________________                                    |
|  |  Add Files      |_____________________________________|__
|  |                                                          |
|  |                                                          |
|  |      Get files from:                                     |
|  |                                                          |
|  |   1. The current disk: Drive 1                           |
|  |   2. A different disk                                    |
|  |                                                          |
|  |      Make a new file for the:                            |
|  |                                                          |
|  |   3. Word Processor                                      |
|  |   4. Data Base                                           |
|  |   5. Spreadsheet                                         |
|__|                                                          |
   |                                                          |
   |__________________________________________________________|

Type number, or use arrows, then press Return                166K Avail.
```

Easy-to-Learn, Easy-to-Use

Compared to other integrated software packages, /// E-Z Pieces is both easy to learn and easy to use. If you know Quick File ///, then you'll learn /// E-Z Pieces within an hour. But even if you aren't familiar with Quick File ///, you'll still be amazed at how easy it is to learn this integrated software package.

One can almost learn this software package without having to read the manual. The manual, by the way, was quite a disappointment. No tutorial was included, and the manual seemed to have been edited in haste. Luckily, the /// E-Z Pieces user doesn't have to read the entire manual to learn to use the programs.

There are many built-in features which allow the user to learn /// E-Z Pieces. For example, press the Open-Apple key and "?" anywhere in the program and you'll get instant, on-line help. Every screen in /// E-Z Pieces reminds you of where you are, what you can do, and where to go. This information, displayed on the top and bottom lines of your screen, assures you that you'll never be lost in a maze of menu commands. And, you'll find that with /// E-Z Pieces, learning one application leads you to learn the other applications in less time. Many of the commands are the same across the various applications.

Because of its analogies to familiar concepts, /// E-Z Pieces is easy-to-use. Your screen is analogous to a desk top; your disk directories to file

folders; and your data files to pieces of paper in the folder. For example, when you boot /// E-Z Pieces, a "file folder," containing a variety of menu choices, appears on your "desk top," with the words "Main Menu" written on the file folder tab. And if you choose "1. Add files to the desktop", another file folder pops up, lying on top of the first folder, with an "Add Files" tab and more menu choices (see figure).

/// E-Z Pieces truly utilizes the Apple /// operating system's power in creating an easy-to-use integrated software package. For instance, you can not only list or delete files from a data disk, but also format a blank disk or create a subdirectory on a data disk. And as long as you have the proper drivers configured, /// E-Z Pieces allows you to print on ten different types of printers, ranging from the Apple Imagewriter to the Epson MX series. These ten printer specifications are standard; you may add custom printer specifications, too.

Now that we've seen some of the features which explain why E-Z is part of this software package's name, let's turn to some of the features of the three application pieces.

Word Processor

Unlike other integrated software packages, /// E-Z Pieces centers around the word processor application. Compared to other word processors, the one in /// E-Z Pieces is fairly powerful.

The power in this word processor can be seen through its diverse printing options. The writer can specify different margins and font types; proportional spacing, justification, centering, underlining, and boldface; subscripts and superscripts; page headers and footers; hanging paragraphs and bullets; and automatic page numbering.

The most powerful feature of this integrated software package can be demonstrated in the word processor. Information from the spread sheet or data base applications can be "cut" to a clipboard (another desktop analogy) and later "pasted" anywhere in a word processor file.

A unique feature of this word processor is the "enter keyboard" printing option. You can ask the printer to stop when printing so that you can type information directly from the keyboard into a form document. This feature is very useful when you want to personalize letters, for example, by typing in the recipient's name. However, this feature also points to a weakness in the word processor when you want to do a mass mailing. You cannot merge a mailing list from the data base into a form letter, as you can with other word processing programs.

Features I miss in /// E-Z Pieces' word processor include the absence of windows and user-defined glossaries. Windows allow the writer to split the screen into two parts, or windows, both containing the same file. The top window could show the first ten lines of the file, maybe the introductory paragraph, while the bottom window could show the last ten lines of the same file, for example, the closing paragraph. This would allow the writer to edit the closing paragraph in the context of the introductory paragraph without having to scroll through the whole text file.

User-defined glossaries allow the writer to program a certain sequence of keystrokes to a certain key. For instance, instead of typing out the words "/// E-Z Pieces" every time, with the glossary function, I could have typed Control-3 and the words "/// E-Z Pieces" would appear on the screen. Maybe the next revision of /// E-Z Pieces will include these features.

Spread Sheet

/// E-Z Pieces' spreadsheet files can contain up to 127 columns by 999 rows. For a 256K Apple ///, you may have a maximum of about 11,000 filled cells. For a user familiar with VisiCalc, the spread sheet application should be very easy to learn. You also have the flexibility of using a VisiCalc file or a DIF file (such as a file created by /// E-Z Pieces' own data base, VisiCalc, or other programs) as the source of a spread sheet file.

Most of the standard spreadsheet features that you'll find with other spread sheets are available here. This includes varying column widths, where you can set, for example, wider columns for words and narrower columns for numbers; various arithmetic, logical, and financial functions, including @IRR and @NPV; protection for specified cells; and moving blocks of information from one part of the spread sheet to another, or from one spread sheet to another. This spread sheet, however, doesn't have some features that many advanced VisiCalc users may want. One of these missing commands is the keystroke memory sequence available with Advanced VisiCalc.

You can print out the spread sheet to a printer, to a file in DIF format, or to an ASCII (text) file on a disk. And best of all, you can print to the clipboard and later move the information on the clipboard to a word processor file.

Data Base

As mentioned earlier, the data base portion of /// E-Z Pieces is very similar to Quick File ///. For a 256K Apple ///, you are limited to about 2300 records per file, assuming an average record size of 75 characters. Within this limitation, though, you'll find yourself working with a very flexible and powerful data base.

First of all, the data base file can also accept ASCII files (which may be created from other data base programs or even Apple Writer ///), DIF files (created from VisiCalc or a /// E-Z Pieces spread sheet), or from a Quick File /// file.

Setting up a data base file is very simple, and so is the data entry. There are two report styles: tables and labels. Both are very flexible and allow you to sort from the data base in various combinations of specified selection rules.

And, of course, the integration allows the user to "cut and paste" information from the data base into a word processor file.

A Good Value

/// E-Z Pieces is a well-designed integrated software package which takes full advantage of the power of the Apple ///. Furthermore, if you have an Apple //e at home and an Apple /// at work, your /// E-Z Pieces data files can be used directly by the AppleWorks program.

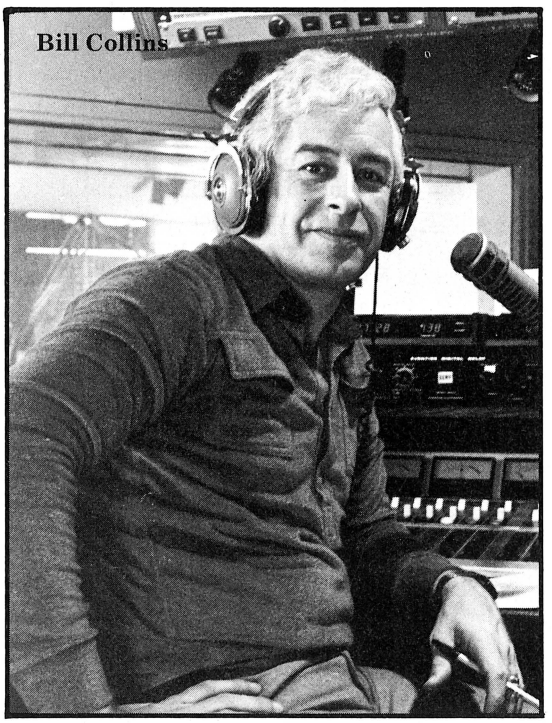
For a retail price of $295, /// E-Z Pieces is also quite a bargain. Compare this with other integrated software on competing personal computers, and you'll find it to be a good value, too.

The Broadcast Apples

by Lenore Wolgelenter

With all good intentions of leaving my house in time to avoid the early morning rush hour traffic, I headed up U. S. Highway 101 towards Oakland. My timing was off, as the cars were still bumper to bumper. The reward waiting for me when I got to Jack London Square was a few moments to spare. I was able to enjoy the boats rocking gently in the early morning fog of San Francisco Bay.

After taking pleasure in the morning fog and enjoying the good fortune of finding a parking place, I took the elevator up to the world of country music and the fast paced environ ment of radio broadcasting. My destination was KSAN and KNEW radio, respected call letters in broadcasting in the Bay Area. Steve Jordon, marketing manager for the two radio stations, greeted me with coffee and a guided tour of the station. Steve himself has not yet been converted to computers and still works away on his typewriter, however, by the time of publication, he may have made some changes.



Bill Collins

To stay as one of the top stations requires a lot of work and knowledge of the market place To help them do this, their one Apple computer has been working at least 6 hours per day for the last 18 months.

As he explained to me, the broadcasting business is highly competitive. The San Francisco Bay area has approximately 40 radio stations vying for the listener to turn the dial to their programs. KSAN and KNEW play contemporary country and western music. To stay as one of the top stations in this geographic region requires a lot of work and knowledge of the market place. To help them do this, their one Apple computer has been working at least 6 hours per day for the last 18 months, reliably providing the much-needed statistical reports.

As there had to be a beginning for this one computer, everyone at the station gives the credit to Bill Collins. Bill is a softspoken man once he takes off his headphones. For the past 12 years, he has been the morning disk jockey at KSAN. Except for his cowboy belt and shirt, Bill looks more like a pipe-smoking college professor than a quick ad-libber of the country and western radio world.

That follows a pattern we've discovered here at *Apple Orchard*: the Apple is introduced into the company environment by a staff member whose normal duties have little or nothing to do with computers, and the machine rapidly finds a home. Bill's introduction to computers was with a Radio Shack TRS 80. It took only 6 months before his interests exceeded the TRS 80's memory. Intent upon expanding his own knowlege, Bill purchased an Apple to do graphics. Once more his interests exceeded his knowledge, but now his computer's memory could match his curiosity. On the morning I was there, in between songs, in the control booth he was reading a book on Pascal.

One professional benefit for this disk jockey is that his work day ends at about 2 PM. With time on his hands and a computer at home, he set out to learn programming. For a first project he wrote a word processing program in BASIC, and then he rewrote it in machine language. In addition to learning how to program his Apple, Bill is an amateur astronomer and history buff. The practical side of his personality put all this together in a data base which Bill uses for his daily show. As a disk jockey for more than 28 years, Bill can do his show without a script, and much of what he says is ad-libbed. To add some spice, a daily part of his program includes a few minutes of "this day in history". In order to keep up with historical facts for 365 days, Bill set up a data base for each day of the year. Periodically he updates his file as he gathers more historical data.

Bill describes himself as a solitary person and using a computer gives him the opportunity to extend his mind. Work at the radio station affords him the opportunity to share his warmth with people. He says "I am not here to educate or change the world; rather to cater to the tastes of my listeners and bring pleasure to their lives". The radio business is a personal challenge, his hobbies bring the in-

tellectual challenge.

To spread the word, Bill set out to bring computerized organization to the radio station. He developed simple data bases to keep a telephone directory and personnel roster. On a grander scale, he rewrote a TRS-80 market research program to work on the Apple, a music program to keep track of how many times a song tape was used and when it needed to be replaced. KSAN and KNEW, as with most stations these days, put all their music on tape cassettes. By keeping track of the number of plays per cassette, the program director can plan and budget for tape replacements. Another data base listed the artist's style and whether the song was "hard" or "soft" country music. In most instances, today's disk jockey does not select the music for his show. Computer programs are written so that the computer can select the music according to style. Using this method, the songs played during any given time period will have the necessary variety of mood and tempo, appealing to the greatest number of listeners.

Next on my tour was Laurie Sayres, music director for the station. She is responsible for includiing the top song hits of the moment, in her program planning. It is her responsibility to put together a balanced musical program and in order to do this, she must have access to the latest information. Laurie relies on the song charts, both local and national, phone calls to local record shops and trade publications such as *Billboard* and *Cashbox*. While the actual music programming is done on a Data General mainframe, having the Apple close at hand gives her the opportunity to quickly tabulate the daily information needed to do her job.

It did not take long before KSAN's computer guru had National Program Director Jim Wood hooked on using an Apple. Jim's responsibility is to see that KSAN and KNEW stay on top of the charts. In the broadcasting world, the ratings can make or break a station. In order to maintain the high ratings that KNEW and KSAN currently enjoy, Jim needs accurate up to date information formatted for his needs. He relies heavily on statistics from Arbitron (similar to Nielsen ratings for TV). In the highly charged world of radio broadcasting, accurate information is needed about the listener's age, sex, educational background, musical tastes, world affairs interest, when they listen to the radio and for what: news, music, traffic reports, talk shows, contests. Information is needed as to where the listener lives (zip codes) to figure out where a particular station has the strongest/weakest listener base.

Gathering the demographic information and doing market research is only the beginning. Together, Jim and Bill used VisiCalc to restructure their research information. The end result is a quicker and more comprehensive analysis of their competition, and audience. As with magazines, such as *Apple Orchard*, the larger the audience, the easier it is to get advertisers, and that leads to greater revenues. Jim was quick to point out that radio is an ego business, whether it means the popularity of the disk jockey, or the sales representative bringing in new advertising clients. The more data gathered and the quicker it can be analyzed, the better everyone can do their jobs and increase their own success.

But the story doesn't end in Oakland. KSAN and KNEW are part of the 14 station Malrite Communication Group. If Bill Collins passed the computer bug on to Jim Wood, he in turn passed it on to the corporate Treasurer and President. During the week of my interviews, both of these corporate officers were busy working on budgets and forecasts with their own Apple /// computers in Cleveland, Ohio; the company was in the process of going public.

All of the Malrite stations are gradually having their record-keeping standardized via various computer applications. At the present time, their Rochester, New York station, WEZO-FM, uses the Apple for instant weather broadcasting, especially for hazardous snow conditions forcing school closure.

Other stations use Apples to instantly update and broadcast community events. Steve Schram, program director at WZUU-FM in Milwaukee Wisconsin, uses a modem with his Apple to hook directly into Arbitron for up-to-the-minute rating information. In general, however, broadcasting still has a way to go. Employees at local radio stations (even KSAN-KNEW) have not yet taken to the computers, as evidenced by the number of typewriters sitting on the desks. When I asked about this, Jim said that most of the staff was still scared of the computer. (Software developers take note: there is still an opportunity to create panic free software for the absolute novice.)

Before heading off in to the sunset and the 5 o'clock traffic I turned my radio to KSAN, much wiser about the world of broadcasting and fully aware that the heavy traffic was already out there. Since rushing would not get me home faster, I stopped at the corner to look at the boats, now swaying in the afternoon breeze. Now, where will I find my Apple user developing nautical applications programs so that I could spend a day on a boat?

Set Up Your *DOT MATRIX PRINTER* With a Touch of a KEY!

PCP™ **PRINTER CONTROL PROGRAM**

No longer do you have to enter long "set up strings" to take advantage of your DOT MATRIX PRINTER's capabilities. Just select from the MENU...let your computer do the rest! Condensed Characters, Double Strike Printing, Emphasized Characters, Special Line Spacing, and more! Comes complete with PROGRAM DISKETTE and OPERATING MANUAL. Includes information on how to program your printer in Basic, VisiCalc®, Applewriter. PCP is a very handy utility program you will use again and again!

EPSON PRINTER CONTROL PROGRAM

PRINTER OPTIONS

A	CONDENSED	G	6 LINES/INCH
B	DOUBLE WIDTH	H	8 LINES/INCH
C	ITALICS	I	10 LINES/INCH
D	HALF SIZE	J	SPECIAL SPACING
E	EMPHASIZED	K	UNIDIRECTIONAL
F	DOUBLE STRIKE	L	BIDIRECTIONAL

SOME COMBINATIONS

M	EMPHASIZED DOUBLESTRIKE
N	DOUBLEWIDE EMPHASIZED
O	DOUBLEWIDE EMPHASIZED DOUBLESTRIKE
P	CONDENSED DOUBLEWIDE
Q	CONDENSED DOUBLEWIDE DOUBLESTRIKE
R	CONDENSED DOUBLESTRIKE
S	CONDENSED HALF SIZE
T	RETURN TO STANDARD SETTINGS

> TYPE LETTER, PRESS RETURN (0 ENDS)

VERSIONS:
Apple II, II+, IIe and III WITH
Apple DMP & Imagewriter
Epson MX*, RX & FX Printers
C.Itoh Prowriter I & II
NEC PC8023A
Okidata 82A, 83A, 92, 93 & 84
Gemini Star 10, 10X & 15

THIS IS WHAT THE EPSON MX VERSION MENU LOOKS LIKE

Be sure to specify BOTH microcomputer and printer to obtain correct version.

PRO/PAC
14925-A Memorial Drive, Dept. A
Houston, Texas 77079
(713) 496-1179
** Requires Graftrax Plus™ For Full Features*

ONLY $29.95
plus $2.00 shipping and handling USA
VISA and MasterCard Credit Cards
See Your Dealer or Write or Call Us!

APPLE® is a registered trademark of Apple Computer, Inc.

Circle HelpCard No. 26

Customizing AppleWriter II-///:

Special Glossaries

by Steve Goldstine and Mary Ann Vizdos

One of the most useful features of the AppleWriter II word processing program is its glossary feature. A glossary permits a single character to be defined as the code for multiple characters or an entire phrase. When you type the single code character, the whole defined phrase is inserted automatically into the text at the cursor position. The most popular use for the glossary is to facilitate the insertion of printer codes for boldface, underlining, etc. anywhere in the text.

Glossary definitions are not limited to printer codes or short phrases, however. Multiple lines of text, separated by carriage returns can also be defined. In correspondence, for example, this allows the insertion of a return address anywhere in the text with a single keystroke. In this article, we will describe a method of defining multiple lines of text as a single glossary term which can be used with the AppleWriter II-/// program as implemented for any variety of Apple computer. Because carriage returns can't be part of glossary definitions on most Apples, this method utilizes special characters in their place and translates them back into carriage returns at a later time. This approach also offers greater flexibility in formatting the glossary.

My favorite use for a multi-line glossary definition is the signature block at the end of a letter, since it allows me to finish with a flourish. Glossary files are ordinary text files just like those you use when writing with AppleWriter. They are therefore created the same way you create any other file. For this example, Start by clearing memory and initiate the glossary using 'z' as the glossary term. Using the '[I]' command, the signature block begins at Tab position 36. The entry looks like this:

```
z                                   Sincerely,


                                    Jack Smith
                                    Public Relations Department
                                    Don Quixote Software
                                    363 Cervantes Lane
                                    Windmill, New Hampshire  96043
                                    (222) 674-8932
```

Please note that each line begins with '[I]' commands to tab over to 36, ends with a carriage return and carriage returns are used for the blank lines. After entering this definition for 'z', all the Carriage Returns (>) are replaced by '*' (or any other infrequently used 'special character') by placing the cursor just above the 'z' and typing a 'find and replace' command with special delimiters- '[F]:<><*<A'. This command transforms the entry into the following:

```
z           Sincerely,***
Jack Smith*           Public Relations
Department*           Don Quixote Software*
363 Cervantes Lane*            Windmill, New
Hampshire  96043*            (222) 674-8932*
```

Next, a real carriage return is typed just after the last character in the entry to terminate this glossary definition (everything has got to end sometime). The entry, now in its final form, is promptly '[S]aved' as a text file called 'glossary.name'. The screen and memory are then cleared with the '[N]ew' function.

Now that you have created a glossary file, how do you use it? The differences between glossary files and normal text files are in the memory location they occupy, the way they are displayed and the method of manipulating or implementing them. A normal text file is loaded with the '[L]oad' function, is visible on the screen and can be manipulated by variety of keyboard entries. A glossary file is loaded through the 'Additional Functions' menu ('[Q]' function), is not visible on the screen and is manipulated by the '[G]lossary' command. After a glossary file is loaded, typing '[G]' plus the pre-defined code character allows you to insert the glossary definition. Typing '[G]*' deletes the current glossary, and '[G]?' allows additions to the current glossary. (New definitions added through '[G]?' are lost when you exit AppleWriter in the II version of the program).

Back to our current glossary file. The glossary file you have saved is loaded by typing '[Q]5' ('[Q]E' for Apple

Writer //e) and the file name, 'glossary.name'. After typing your next letter place the cursor at the left margin below the end of the text and insert the glossary definition by typing '[G]z'. Magically, the glossary definition appears in your document (see above). After the letter is proofed, we use the '[F]ind' command to transform the signature block at the end of the letter back into a more familiar format. Type '[F]:<*<><A' (transforming the '*s' back into 'CR's ('>')). Thus:

```
Sincerely,


Jack Smith
Public Relations Department
Don Quixote Software
363 Cervantes Lane
Windmill, New Hampshire  96043
(222) 674-8932
```

You will notice that there is one small aberration which requires correction in the 'glossary.name' file. The first line is not at tab 36 in its final form (because of the space taken up in the glossary file by the term 'z'). To correct, just tab over to 37 for the first line when typing the original or reload the existing glossary file through the '[L]oad' function, add a space after the 'z' and re-save the glossary file. Small price to pay.

More impressive uses for this type of glossary definition are:

1. Special Formats Within Documents. If a particular typed format is used frequently, the approach presented here can save the format as an outline which can be easily inserted into a document and filled in from the keyboard. This is especially useful for producing sections of a monthly report or contract. First, the outline is entered as usual, with all the imbedded print commands for indentations and margins. Then a code character is inserted at the beginning of the text, carriage returns replaced by a special character and finally the visually condensed outline definition is saved as a glossary file or merged with another glossary file.

2. Business Forms. When any particular style of business form is used only occasionally, this approach can be very handy and inexpensive.

3. Custom Letterheads and Titles. In combination with a dot matrix printer and the proper printer commands, any number of different custom letter heads can be printed by typing a single code character.

4. Multiple Line 'Top/Bottom Line' Entries. Although the standard method of printing top/bottom line entries is more convenient, these are normally limited to single line. If you allow enough space on individual pages, multiple line entries can be inserted on each page prior to printing.

5. Imbedded Print Commands for Outlines. This approach can be used to define imbedded print commands and is particularly useful in making outlines. For example, a '+' could be defined as '.lm+4*' to indent a block of text and a '-' as '.lm-4*' which brings the left margin back out again. Since these imbedded commands must be a line by themselves, after typing a document all the entries which require a Carriage Return are transformed by the '[F]:<*<><A' command prior to saving or printing.

The glossary file example used here contained only one entry. Any number of entries can be saved in a single glossary file as long as the entire file does not exceed 2048 characters. You can check the length of the glossary file by noting the number next to 'Len:' on the data line. Any single character except '*' and '?' can be used as the code for a definition, but each one should be unique. A sample glossary can be found on the AppleWriter II master diskette under the name "Special". The new version of AppleWriter /// even contains a glossary which allows the numeric keypad to be used as a group of function keys for AppleWriter commands.

If your interest in AppleWriter has taken you this far, let's go one step further. Text files can be used for a third purpose within the AppleWriter program. That is to automate Apple Writer. Many AppleWriter functions can be automated by simple programs, which, like glossaries, are standard text files, loaded or executed in a special way. A program which will help create multiline glossaries by automatically replacing the carriage returns with '*s' would look like this:

```
        P WPL.CONDENSE
        P Program to Replace CRs with '*s'
start   B
        F<><*<A
quit    Pqt
```

This text file is saved under the name 'WPL.CONDENSE' and run by typing 'P:DO WPL.CONDENSE'. WPL stands for Word Processing Language, and the sequence of commands in this WPL program will automatically do the replacements you had previously done manually. Running this program with the signature block and its glossary code on the screen will produce a visually condensed signature block and then return you to the main AppleWriter program so you can save your new glossary. Most of the commands used in this simple program are the same as those used in the main program. The unique commands are 'P' (P followed by a space) which is a Remark statement (similar to the REM in the BASIC language) and 'Pqt' which is equivalent to END in BASIC. In addition, segments of the program can have labels ('start', 'quit').

An additional WPL program can be used to restore a multiline glossary definition after it is inserted in a document. This restoring program replaces the '*s' with carriage returns:

```
        P WPL.RESTORE
        P Program to replace '*s' with CRs
start   B
        F<*<><A
quit    Pqt
```

This program is '[S]aved' as a text file under the name 'WPL.RESTORE' and run after all the multiline glossary definitions have been inserted into a document. Typing 'P: DO WPL.RESTORE' will restore the document on the screen into a readable and printable form.

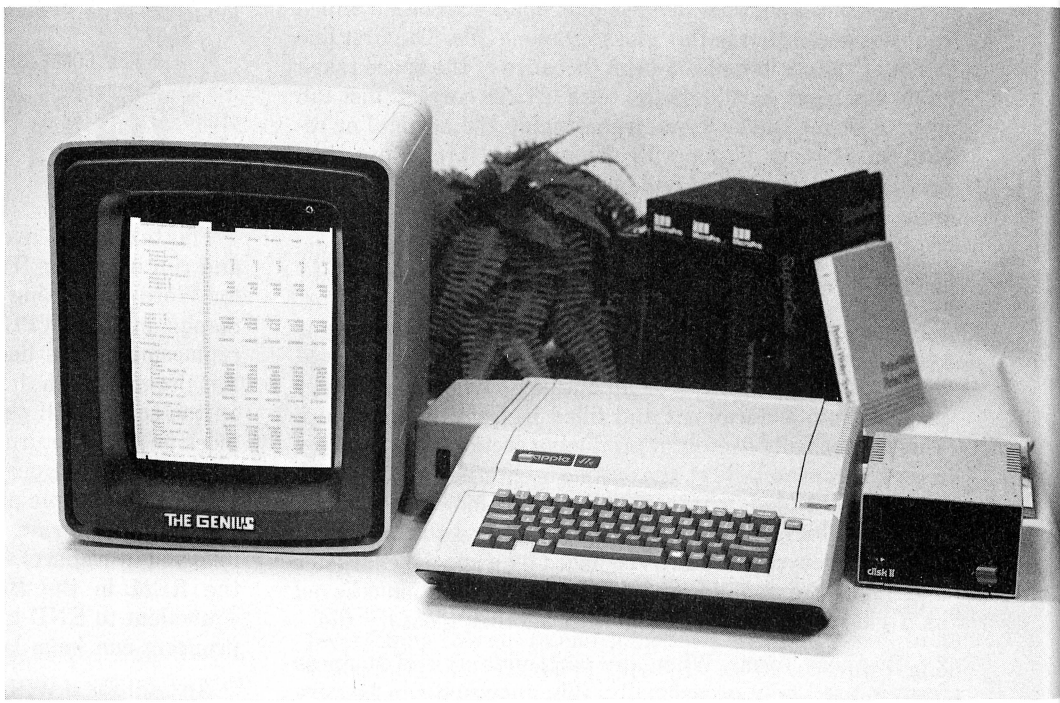
If you are interested in writing AppleWriter programs (properly called Word Processing Language WPL programs) check the WPL tutorial in the AppleWriter documentation. Further, an excellent series of WPL tutorials by Richard Loggins began appearing in **Apple Orchard** starting in October, 1983.

The Genius

A Full Page Display Monitor for your Apple II

Micro Display Systems, Inc.
P.O. Box 455
Hastings, MN 55033
(612) 437-2233

Review by Gene Wilson



The GENIUS display monitor can display a full typewritten page, up to 57 lines.

The Genius, for Apple II computers, is a full-page display monitor (CRT). It provides a full 57 lines of flicker-free, high-resolution text, eighty-columns wide, on a fifteen inch long screen. The characters are formed with a 7 x 12 pixel (dot) which sits in a 9 x 14 pixel field. This dot resolution allows for a well defined character set, which includes true descenders. A number of International font sets are available as an option.

This monitor, with its low persistence phosphor CRT, is available in black and white, green, or amber models. All three versions offer "inverse" and "flashing" characters. A full page of a letter can be displayed, for example, as black letters on a white background, which takes on the appearance of a typewritten page.

Interfacing (Computer vs. Monitor)

The rather large interface card, which is has been designed to be placed into slot number three, allows up to 4560 characters (80 characters x 57 lines) to be "scrolled" onto the display in less than three seconds. To accomplish this, a Z-80 microprocessor, which is inside the CRT monitor, along with 16k of internal screen memory and buffer space, is able to map the screen with amazing speed. Computer memory allocation for use of the full-page mode requires the Apple's two text pages plus an additional block of 4560 bytes. A 2048 character EPROM on the interface card can emulate the functions of eighty column cards that follow Apple I/O driver conventions.

Be aware that while this interface card is working hard to control interaction between the computer and the CRT, it is generating heat. I recommend running ANY large peripheral board (and this is a big one) with a fan running; if you don't have a fan, then at least leave the top of the computer's lid cracked-open for fresh air/ventilation.

The interface assumes that the user has performed the "one-wire shiftkey" modification to the Apple II's motherboard; for older Apples this allows the screen to be fully compatible with the most modern word processing packages. Don't panic if the modification hasn't been performed, as software switches have been provided to take care of this case.

The Basic Story

The Genius sets itself up as the input/output device for Applesoft BASIC. It can also be used as a text printer by simply sending output files to slot number three (PR#3). The monitor will also work fully in Apple's forty-column mode, but the letters are double-size on the screen.

A full set of escape functions allow full programming of screen sequences. These are fully documented in the Operating Instructions.

Pascal Users Take Note

On boot-up, Apple Pascal "sees" the interface card (if it has been installed in slot number three) and assigns it as the SYSTEM.CONSOLE. To make full use of the Genius, simply eXecute APPLE3:SETUP.CODE and set the SCREEN WIDTH to 80 and the SCREEN HEIGHT to 57. Pascal will now display 80 columns by 57 lines.

Note here that programs that only access 24 lines will still be active in only the topmost 24 lines. This in no way hampers operation of these programs, and the display resolution will still be superior to that shown with most monitors.

CP/M

(Something for everybody)

Simplicity! Just boot-up and the Genius resets to what it considers "normal" mode, with light letters on a dark screen. Pressing the right control characters will set the video mode to "inverse".

The interface will assume that all characters typed on the keyboard are upper case. Upper and lower case letters will be generated on the display screen if the system is told that the keyboard has been modified for this purpose.

CP/M software that requires "escape" sequences can be used, but the user must press the ESCape key twice, followed by the required sequence.

Many CP/M programs have a configuration option that allows setting defaults and parameters that will be used each time the program is booted. For example, Wordstar can be told that the full 57 lines are available.

Conclusion

(Lots of features in a big box)

The Genius is ideal for the office environment, where its full features can be used and appreciated on a daily basis. The cost of the unit, at $1,250.00, is prohibitive for home or hobby use, and the size and weight of the cabinet, at 17 inches in depth and nearly 40 pounds in weight, suggest that the monitor be placed in a single, static location.

As the Genius has an RS-232C version, it is rumored that an Apple /// model will be available soon. Many business and professional applications programs running on the Apple /// could benefit from the large-screen, high-resolution display, as provided by this unit.

Looking at an entire page, on a screen with black letters on a white background, exactly as it will appear on paper, is a luxury not readily available with other monitor displays. The character set resolution provides crisp, clear displays that are a joy to read.

THE BEST WORD PROCESSOR IN THE WORLD! Well . . . Maybe . . .

For The Apple II, II+, And IIe,
Softinson Data Corporation Presents:

THE SOFTGLOW WORD PROCESSING SYSTEM

There are many word processors available for the Apple Computer, each having different features and functions, and each claiming, in some way, superiority to the others. Trying to pick "the best one" to meet your requirements can seem like an impossible task.
Softglow, from Softinson Data Corporation, may be the answer. Its features are listed below in some detail, and its price is inexpensive enough to justify its purchase even if you already own a word processor.

Some Facts-Softglow:

- is a true full screen editor for the Apple II, Apple II+, and Apple IIe–at all times, "what you see is what you get."
- is written completely in assembler language–system response time is very fast–screen update is instantaneous.
- uses standard DOS text files–so it's compatible with many other word processors.
- has fast loading of text files–up to 5 times normal speed.
- has standard word processing features–such as word wrap around, alpha lock, tab, and global search and replace; and some nonstandard ones such as soft hyphens and non-break spaces.
- supports lower case, the shift-key modification, and enhancer (under the keyboard) boards.
- utilizes the full capabilities of the Apple IIe.
- has fully buffered input–characters cannot be lost no matter how fast they are entered.
- software is unprotected–so making backup copies is no problem.

And Some Figures-Softglow Has:

- 12 Cursor Control Commands–including move cursor by word, page, and paragraph.
- 5 Modes of Updating Text–insert, delete left, delete right, replace, and case change.
- 9 DOS File Commands–uses standard DOS files–commands are: load, save, delete, catalog, lock, unlock, rename, verify, and initialize.
- 9 Block Commands–including delete, move, and copy a marked block; save and append a mark block to a file; and load a file at the current cursor position.
- 11 Find and Replace Options–including forward and backward search, wild card, whole word search, ignore upper and lower case, and replace all.
- 16K RAM Card–used, if available, for added text space.
- 25 Printer Format Commands–including left, full, center, and right justify; multiple headers and footers; draft copy; file insert and file chaining; the printing of text to any slot, or to a file for later printing or sending; and hyphen help.
- 20 Configuration Parameters–so the system can be customized to individual applications.
- 2K Macro Area–any characters typed at the keyboard can be entered as a macro, to be invoked by a one or two character sequence. Form letters are easily produced using this feature.
- 3 User Defined Files–configuration parameters, macro definitions, and tab stop positions can be loaded automatically at power-up, or loaded anytime while running the editor.
- 32 User Defined Tab Positions.

And The Best Figure Of All:

- $49.95–check or money order.

Sound complicated? It really isn't. Softglow is extremely easy to learn, and yet, unlike so many others, advanced enough to meet your future word processing needs. It's just possible that, for you, Softglow is the BEST WORD PROCESSOR IN THE WORLD!

To use the Softglow Word Processing System, you will need:

- An Apple II, Apple II+, or Apple IIe, with a minimum of 48K of memory.
- One or more 16-sector disk drives (DOS 3.3).
- A TV set or video monitor.
- A printer with interface card to print out documents.

Apple is a registered trademark of Apple Computer, Inc.

Send $49.95, plus $2.00 shipping and handling, to:

Softinson Data Corporation
P.O. Box 230
Penfield, New York 14526

Make check or money order payable to Softinson Data Corp.
New York State Residents include 7% sales tax

NAME_____

ADDRESS_____

CITY_____

STATE_____ ZIP_____

The NEW Stuff

New Products For The Apple

Edited by Gene Wilson

The most comprehensive listing and description of new temptations, delicacies, and necessities for your Apple. Notice too that we've made it even easier for you to find out more about these items; just circle the corresponding number on the Apple Orchard Direct HelpCard a bit farther ahead in this issue. We'll forward the requests directly to the manufacturer.

Producers of products for Apple Computers should send new releases two months in advance:

NEW PRODUCTS EDITOR
Apple Orchard
P.O. Box 6502
Cupertino, CA 95015

The IAC cannot be held responsible for claims made by manufacturers.

Contents

NEW FROM APPLE
HARDWARE
- **Disk Storage/Backup**
- **Coprocessor Systems**
- **Interface Cards**
- **Modems/Networks**
- **Printers/Plotters**
- **Static Protection**
- **Miscellaneous**

SOFTWARE
- **Integrated Packages**
- **Business (General)**
- **Spreadsheets**
- **Communications**
- **Educational**
- **Financial**
- **Games/Simulations**
- **Graphics**
- **Languages (Programming)**
- **Music**
- **Personal**
- **Utilities**
- **Word Processing**
- **Data Base Management**

NEW FROM APPLE

Two **new modems use an RS-232C serial interface** with a 9 pin connector. The modems plug directly into the built-in serial port of any Apple ///, Macintosh or Lisa computer. A serial interface card is required for use with any 64K Apple II or //e computer, and can be purchased in an optional accessory kit. Accessory kits for the Apple II and /// computers include a menu-driven terminal program that allows users to dial into information services.

- **Apple Modem 300** works at 300- and 110-baud rates, $225.00.
- **Apple Modem 300** with accessory kit (including a serial interface card), $299.00.
- **Apple Modem 1200** works at 1200- and 300-baud rates, $495.00.
- **Apple Modem 1200** with accessory kit (including a serial interface card), $570.00.

Products are available at authorized Apple dealers.

The **DOS Programmer's Tool Kit**, part of the **Workbench** product line, provides the tools needed to program an Apple II Plus or //e computer in both assembly and Applesoft BASIC under DOS 3.3. Software utilities are included for developing and using special text animation sets, as well as "Boston Window," a full-screen editor.
This product is available at authorized Apple dealers, worldwide.

HARDWARE

Disk Storage/Backup

A CP/M version RAMDRIVE //e, for Apple //e computers with 128K extended memory and 80 column cards, creates a RAM-speed disk emulator. $29.95.
Circle HelpCard No. 401
Precision Software
6514 North Fresno Street
Milwaukee, WI 53224
(414) 353-1666

Coprocessor Systems

McMill, a 68000 coprocessor card for all Apple II computers, utilizes Motorola's 60008 processor, which is totaly code compatible with the 68000. It is offered as an entry level, educational board for those interested in working the 68000. Package includes hardware documentation, schemata, and a FIG FORTH software. Optional SC cross assembler includes debugging code with a simple trap monitor, built-in line oriented editor, and complete documentation.

- McMill, $229.00.
- McMill with Assembler software, $299.00.

Circle HelpCard No. 402
Stellation Two
P.O. Box 2342
Santa Barbara, CA 93120
(805) 966-1140

Interface Cards

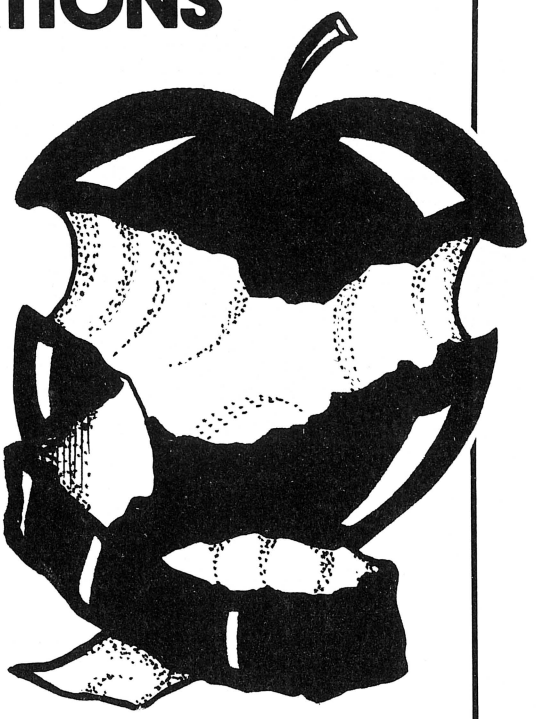
Uniprint is a simple parallel printer interface card for the Apple II Plus and //e computers, and a wide variety of printers. It provides graphic transfer features. Centronics compatible cable and manual included, $89.00.
Circle HelpCard No. 403
Videx, Inc.
1105 N.E. Circle Blvd.
Corvallis, OR 97330

IntroVoice II, a speech input device for all Apple II computers, supports unlimited vocabulary in subsets of 160 words or phrases. The system includes a plug-in board with 16 channel audio spectrum analyzer, 16K of RAM and 8K of ROM. The unit is supplied with documentation, software, and all necessary components.
Circle HelpCard No. 406
Voice Machine Communications, Inc.
1000 So. Grand Avenue
Santa Ana, CA 92705
(800) 821-2226

Modems/Networks

The **Visionary 1200**, a 1200/300bps intelligent, standalone Bell 212A modem with auto-answer and auto-dial,

PEEL OFF THE COMPLICATIONS OF DATA BASE ACCESS FOR JUST $49.95



- Payroll
- Inventory Control
- General Ledger
- Mailing Lists
- Accounts Payable
- Accounts Receivable
- Sorting
- Random Access Of Variable Length Records

Flexibase lets you build and access data base files in a language that you already know. You can use Flexibase with Applesoft, Integer Basic, Fortran, Pascal, or whatever language you use on your Apple. Flexibase is a card that you plug into a peripheral slot on your apple. It'll let you write application programs you never dreamed possible before. Or, you can select one of our application programs that use Flexibase. Each comes on a separate 5¼ inch floppy disc and sells for just $42.50 each. Flexibase must be installed before using our application programs.

A Data Base is a special organization of your Data files using "Keys." You can read your files either sequentially or randomly. For example if your file key was by name, reading your file sequentially would produce records alphabetically by name (regardless of the order you wrote the records in). Or you could read the file randomly to find a specific name without searching the whole file. Examples of keys: Social Security number, name, (payroll) bar code, stock number, (inventory) name, company, zip, (mailing) purchase order or account (accounts receivable and payable). The file can be read by either of two keys. Variable length records eliminate extra spaces used to make the records all the same length.

- Sorts by two keys
- Duplicate keys allowed
- Copy with standard utility
- Read sequentially
- One or more disc drives
- No new language to learn
- Read randomly
- Mix Apple and Flexibase files on the same disc

To receive your Flexibase and any application Programs you would like, fill out this coupon and Mail To:

JOHNSON PRODUCTS
P.O. Box 555
Draper, Ut 84020

Utah Residents add 5% Sales Tax

Name _____
Street _____
Apt. No. _____
City _____
State _____
Zip _____

If you would like to Charge to your Visa or Mastercard please fill Out the following:
☐ Visa ☐ Mastercard
No. _____
Expire date _____

Please send the following:

ITEM	NO	COST	TOTAL
Flexibase	_____	49.95	_____
Payroll	_____	42.50	_____
Inventory	_____	42.50	_____
Gen Ledger	_____	42.50	_____
Mail List	_____	42.50	_____
Acct Rec.	_____	42.50	_____
Acct. Pay.	_____	42.50	_____
Shipping and handling			5.50
		TOTAL	_____

Make all checks payable to: **Johnson Products.**

Flexibase and all application programs come complete with instruction manual.
Flexibase runs on Apple II, Apple II Plus, and Apple II E.

contains up to 48K of battery backed-up CMOS memory for sending, receiving and storing messages, including TELEX and TWX. It has its own internal clock/calendar. On-board software gives it the capability of sending and receiving messages automatically, even if the host computer is turned off. Connection to the Apple ///, Lisa or Macintosh is by RS-232C port. The Apple II requires an interface card. No software is included in the package.

- 2K RAM unit, $795.00.
- 16K RAM unit, $895.00.
- 32K RAM unit, $995.00.
- 48K RAM unit, $1,095.00.

Circle HelpCard No. 409
Visionary Electronics, Inc.
141 Parker Avenue
San Francisco, CA 94118
(415) 751-8811

Printers/Plotters

ThinkJet, HP's Personal Printer, has been introduced for use with all Apple II and Apple /// personal computers. The HP-2225, which prints at 150 cps, combines the printhead with the ink reservoir into a single disposable unit (replacement cost is less than $10.00). It requires a parallel interface card (not included). A serial version will be released later. $495.00. For further information, call (800)-FOR-HPPC, your local authorized HewlettPackard personal-computer dealer or HP sales office.

The **Epson RX-100 dot matrix printer**, prints at 100 cps across 136 columns (10 CPI). It features 9x9 dot matrix characters with a logic-seeking, bi-directional printer, disposable print head, an 96 character Standard ASCII character set and an alternative italics set, and 128 user-selectable type styles. Parallel interface for connection to an RS-232C device is standard. $699.00. For further information, contact Cinnia Curran/Naomi Sigler, with the Bohle Company, at (213) 557-1331.

The **Ring King Up-Write printer stand** raises printers three and one-half inches. Two sizes are available.
Circle HelpCard No. 411
Ring King Visibles, Inc.
P.O. Box 599
Muscatine, IA 52761
(319) 263-8144

Static Protection

The 24-by-36-inch **"First Touch" Series 9200 Static Control Computer Pad** "grounds" the operator by discharging built-up static electricity in less than half a second. For further information, contact Allen M. Fobes, Public Relations Department, at (612) 733-9572. $69.95.
Circle HelpCard No. 414
3M
Department DR83-26
Box 33600
St. Paul, MN 55133

Miscellaneous

Trak Star, for all Apple II computers, is a precision instrument that shows exactly where the read/write head is in the disk drive at all times. It displays all the tracks that are being accessed by a program. Up to 99 tracks can be displayed, so high density drives and program disks using half-track copy protection can be monitored. $99.95, plus $3.00 s/h.
Circle HelpCard No. 416
Midwest Microsystems
9071 Metcalf
Overland Park, KS 66212
(913) 676-7242

DataBind is a vinyl two-ring notebook that accepts 9 1/2 x 11 inch pinfeed paper- -both vertically and horizontally. $6.00/each or five for $28.00 plus $2.00 p/h.
Circle HelpCard No. 419
DataBind
Dept. 24, P.O. Box D
Margate, NJ 08402

SOFTWARE

Integrated Packages

The **Magic Office System**, for the Apple //e (with DOS 3.3, 64K, two disk drives, and an 80-column display), combines Window 11, MagiCalc and Magic Words. Cut and paste allows movement of data between documents.
Circle HelpCard No. 420
Artsci
5547 Satsuma Avenue
North Hollywood, CA 91601
(213) 985-2922

4 in 1, for Apple computers, combines major data processing operations into a single program. Word processing, list and label making, calculations and data management are all handled by a single set of menus and procedures. $129.95.
Circle HelpCard No. 421
Softsmith Corporation
1431 Doolittle Drive
San Leandro, CA 94577
(415) 430-2411

Business (General)

BPI announces four business accounting software packages for the Lisa 2/5 and 2/10 computers, which feature hard disk drives:

- **General Accounting**
- Accounts Receivable
- Accounts Payable
- Payroll

Each package costs $595.00 and is available at over 550 authorized Apple 32 Supermicro dealers. (BPI software being developed for the Macintosh will also run on Lisa systems.)
Circle HelpCard No. 422
BPI Systems, Inc.
3423 Guadalupe
Austin, TX 78705
(512) 454-2801

Great Plains Software has released an enhanced version (3.0) of its Hardisk Accounting Series for the Apple //e and /// computers:

- **General Ledger**
- Accounts Receivable
- Accounts Payable

Stock Option Software Takes Just 18 Seconds To Evaluate 96 Options

FREE BROCHURE
for Investors Using Apple Computers™[1]

OpVal includes newspaper-like tabular displays for forecasted prices (adjusted Black-Scholes), quoted prices, expected profit and other option information; recall of ALL security information; market quotes from Dow Jones™[2] or keyboard; auto-calendar to Dec., 2060; strategy and position graphs; forecast volatility; electronic book design that makes menu mazes obsolete. For Apple Computers™[1]. Program and manual $250. Demo disk and manual $35 (credit on purchase of program). Tax deductible for investors.

Phone or write now! No obligation.

FREE STOCK OPTION SOFTWARE BROCHURE FOR:

NAME

ADDRESS

CITY STATE ZIP

CalcShop Inc., Box 1231-R
W. Caldwell, NJ 07007
Telephone: (201) 228-9139

™ Apple Computer Inc. Trademark
™ Dow Jones & Co. Inc. Trademark

Circle HelpCard No.06

Apple Country Ltd. has your Number for

ROCK BOTTOM PRICES

1-800-222-2602

MONITORS

AMDEK COLOR I PLUS	294.95
AMDEK COLOR II PLUS	424.95
AMDEK COLOR III	369.95
AMDEK COLOR IV	749.95
AMDEK VIDEO 300 (GREEN)	134.95
AMDEK VIDEO 300 (AMBER)	144.95
AMDEK VIDEO 310 (AMBER)	164.95
BMC 12AU 12" GREEN	89.95
BMC AU9191U 13" COLOR	299.95
BMC 1401 13" RGB COLOR	349.95
BMC AU9191MU 13" RGB IBM	629.95
COMMODORE COLOR MONITOR	269.95
COMREX 13" COLOR W/SOUND	269.95
COMREX 12" HI-RES AMBER	134.95
COMREX 12" HI-RES GREEN	129.95
COMREX 12" HI-RES LT GRN	129.95
COMREX 13" RGB COLOR	269.95
ELECTROHOME 9" GREEN	129.95
ELECTROHOME 12" GREEN	144.95
ELECTROHOME 13" RGB IBM	379.95
ELECTROHOME 13"RGB COLOR	359.95
GORILLA 12" GREEN	89.95
NEC 12" GREEN SCREEN	154.95
NEC 12" ECONO GREEN	109.95
NEC 12" LO-RES COLOR	289.95
NEC 12" AMBER SCREEN	164.95
NEC 12" COLOR - IBM	479.95
PRINCETON GRAPHICS HX-12	489.95
SAKATA 13" COLOR	264.95
SAKATA 13" RGB COLOR	499.95
SAKATA SUPER RGB MONITOR	679.95
SAKATA 12" GREEN	104.95
TAXAN 12" GREEN	124.95
TAXAN 12" AMBER	129.95
TAXAN RGB VISION I	294.95
TAXAN RGB VISION III	439.95
ZENITH 12" AMBER	119.95
ZENITH 12" GREEN	99.95
ZENITH RGB COLOR MONITOR	389.95
USI 9" AMBER MONITOR	129.95
USI 9" GREEN MONITOR	119.95
USI 12" AMBER	149.95
USI 12" GREEN MONITOR	139.95
USI 14" LO-RES COLOR	289.95

MODEMS

ANCHOR MARK I (RS-232)	79.95
ANCHOR MARK II (ATARI)	79.95
ANCHOR MARK III (TI99/4A)	99.95
ANCHOR MARK V (OSBORNE)	94.95
ANCHOR MARK VI (IBM PC)	199.95
ANCHOR MARK VII (RS-232)	109.95
ANCHOR MARK XII (RS-232)	279.95
NOVATION J-CAT	104.95
NOVATION 212 AUTO CAT	579.95
SMARTCAT 212 (1200 BAUD)	429.95
SMARTMODEM 300 BAUD	194.95
SMARTMODEM 1200 BAUD	484.95
SMARTMODEM 1200B - IBM	449.95
US ROBOTICS AUTODIAL 212	449.95

PRINTERS

ANADEX DP-9501A	1029.95
ANADEX DP-9625A	1339.95
ANADEX DP-9620A	1129.95
ANADEX WP-6000	2199.95
ANADEX DP-6500TR 500CPS	2329.95
CENTRONICS 352DP	1999.95
C.ITOH A10 DAISY WHEEL	539.95
C.ITOH 8510SP	569.95
COMREX CR-I DAISY WHEEL	629.95
COMREX CR-II DAISY WHEEL	469.95
DAISEYWRITER 2000	1129.95
DIABLO 630R155	1784.95
EPSON FX-80 W/TRACTOR	LOW!!
EPSON FX-100 F/T	LOW!!
EPSON MX-80 F/T	LOW!!
EPSON MX-100 F/T	LOW!!
EPSON RX-80	LOW!!
EPSON RX-80 F/T	LOW!!
GEMINI 10X	LOW!!
GEMINI 15X	LOW!!
GORILLA BANANA PRINTER	189.95
IDS MICROPRISM	479.95
IDS PRISM 132	1299.95
IDS PRISM 132C - COLOR	1499.95
JUKI 6100 PRINTER (P)	549.95
MANNESMANN TALLY MT160L	599.95
MANNESMANN TALLY MT180L	799.95
MANNESMANN TALLY MT1802	1499.95
NEC 3550 SPINWRITER-IBM	1754.95
NEC 8025 120 CPS 136 COL	719.95
OKIDATA MICROLINE 80	299.95
OKIDATA PACEMARK 2350S	1999.95
OKIDATA PACEMARK 2350S	2199.95
OKIDATA PACEMARK 2410P	2329.95
OKIDATA PACEMARK 2410S	2499.95
OKIDATA 82A W/GRAPHICS	379.95
OKIDATA 83A W/GRAPHICS	579.95
OKIDATA 84P	1049.95
OKIDATA 84S	1129.95
OKIDATA 92P	449.95
OKIDATA 93P	729.95
OKIDATA 93S	829.95
PRINTMASTER (DAISY)	1549.95
PROWRITER I PRINTER	344.95
PROWRITER II PRINTER	619.95
C ITOH 8600BP	979.95
QUME SPRINT 11/40+	1399.95
SANYO PR5500 DAISY WHEEL	659.95
SILVER-REED 550 DAISY	699.95
STAR DELTA-10 160CPS	LOW!!
STARWRITER DAISY WHEEL	1099.95
TOSHIBA P-1350 LP	1579.95
TRANSTAR 315 COLOR	449.95
TRANSTAR 120P 14CPS	464.95
TRANSTAR 130P 18CPS	699.95
TRANSTAR 140S 40CPS	1229.95
EPSON SERIAL (RS-232)	134.95
GRAFITTI CARD	84.95
GRAPPLER +	119.95
MICROBUFFER II 16K	144.95
PKASO INTERFACE	129.95
WIZARD BPO 16K	129.95
WIZARD SOB 16K	179.95

OTHER PRINTERS AVAILABLE

APPLE HARDWARE

8088 COPROCESSOR BOARD	429.95
ALIEN VOICEBOX	124.95
ALS CP/M CARD	299.95
AMDEK AMDISK 3" DISK DR	239.95
AMDEK DVM-2 RGB I/F(AP2)	139.95
AMDEK DVM-80E RBG I/F	149.95
APPLE DUMPLING GX	119.95
APPLESURANCE II CARD	89.95
APPLI-CARD: 6 Mhz	274.95
AXLON RAMDISK 320K	739.95
BUFFERED DUMPLING 16K	164.95
BUFFERED GRAPPLER + 16K	179.95
CCS 7710 ASYNC SERIAL	119.95
ECHO II SPEECH SYNTHESZR	119.95
ENHANCER II+ FUNC. STRIP	154.95
4TH DIMENSION DRIVE+CTRL	289.95
4TH DIMENSION DRIVE-ONLY	199.95
GIBSON LPS II LIGHT PEN	229.95
HAYES MICROMODEM IIe	234.95
JOYSTICK W/TOGGLE IIe	54.95
KENSINGTON SYSTEM SAVER	64.95
KOALA GR/TABLET W/SFTWR	99.95
KRAFT JOYSTICK (AP2)	39.95
LAZER MICROSYSTEM DRIVE	189.95
MICROBUFFERII 16K SERIAL	144.95
MICROBUFFER II+ 16K (P)	199.95
MICRO-SCI A2 DRIVE ONLY	239.95
MICRO-SCI A2 W/CTRL-CARD	299.95
MICRO-SCI 64K80COL CARD	124.95
MICROSOFT SOFTCARD (AP2)	234.95
MOUNTAIN MUSIC SYSTEM	289.95
MOUNTAIN ROM WRITER	134.95
NEPTUNE 64K80COL CRD IIe	184.95
NOVATION APPLE-CAT II	264.95
NOVATION 212 APPLE-CAT	584.95
OMEGA RAMEX-128K	349.95
ORANGE INTERFACE	69.95
PREMIUM SOFTCARD IIe	334.95
PROMETHEUS VERSACARD	139.95
QUADRAM 64K80COL CRD IIe	124.95
RANA ELITE I W/CTRL-CARD	349.95
RANA ELITE I DRIVE-ONLY	259.95
RANA ELITE II W/CTRL	499.95
RANA ELITE II DRIVE-ONLY	419.95
RANA ELITE III W/CTRL	649.95
RANA ELITE III DR.-ONLY	559.95
S.A.M.	89.95
SOUNDCHASER MUSIC SYSTEM	619.95
SOFTCARD (Z-80 CARD)	234.95
STB-80 80 x 24 VIDEO BRD	174.95
SUP'R'TERMINAL 80 COL	239.95
SWEET P PLOTTER	459.95
TAXAN 410-64 RGB 2(AP2e)	244.95
TAXAN 410-80 RGB 2(AP2e)	139.95
TG JOYSTICK W/TOGGLE IIe	49.95
TRANSMODEM 1200	499.95
VIDEX VIDEOTERM W/SFTSW	239.95
VIDEX ULTRATERM	279.95
WIZARD-80 80 COL BOARD	154.95

DISKETTES

ELEPHANT DISKETTES SS/SD	16.95
ELEPHANT DISKETTES SS/DD	19.95
ELEPHANT DISKETTES DS/DD	25.95

APPLE SOFTWARE

ALIEN MUNCHIES	15.95
ASCII EXPRESS	89.95
BOOKEEPER III	69.95
BPI GENERAL ACCOUNTING	294.95
C BASIC (REQ. Z-80)	119.95
CONTEXT CONNECTOR	129.95
CRYPTO CUBE	29.95
D.B. MASTER 4.0	239.95
DATAFAX	179.95
DATASTAR (REQ. Z-80)	195.95
DIAMOND MIND	29.95
dBASE II (REQ. Z-80)	449.95
EINSTEIN COMPILER	99.95
EXECUTIVE SECRETARY	179.95
FRIDAY (REQ. Z-80)	199.95
GRAPHIC SOLUTION	119.95
GRAPHTRIX 1.3	54.95
GRUDS IN SPACE	27.95
HI-RES SECRETS	99.95
HOME ACCOUNTANT	54.95
INFOSTAR (REQ. Z-80)	319.95
JUMPMAN	34.95
KAREL THE ROBOT	179.95
KEN USTON'S PRO BLACKJACK	54.95
MAGIC WINDOW II	99.95
MASTER PLANNER (REQ Z80)	229.95
MAZE CRAZE CONSTRUCT. SET	29.95
MILESTONE (REQ. Z-80)	199.95
MILLIONAIRE	44.95
MULTIPLAN	189.95
ORCA/M	79.95
PSF: REPORT	99.95
PIE:SPELLER COMMUNICATION	64.95
PIE WRITER 2.2	119.95
PINBALL CONSTRUCTION SET	29.95
POOYAN	24.95
PROGRAMMING AIDS	64.95
PRONTO DOS	21.95
Q-BASE	139.95
QUEATRON	34.95
QUICK CODE (REQ Z-80)	199.95
REPORTSTAR (REQ Z-80)	239.95
ROOTS/M (REQ Z-80)	134.95
SCRAPER CAPER	34.95
SENSIBLE SPELLER	84.95
SPACE ADVENTURE	24.95
SPEED READ +	49.95
SPELLSTAR (REQ Z-80)	164.95
STAR MAZE	29.95
SUPERCALC (REQ Z-80)	189.95
SUPER-TEXT PRO	69.95
SYSTEM II EX TURNING PT	1099.95
TAX PREPARER	159.95
TERRAPIN LOGO	104.95
ULTIMA I	29.95
VERSAFORM	259.95
VISICALC //e	264.95
WITNESS	29.95
WIZWARE MICROZIN	29.95
WIZWARE SQ PAIRS	29.95
WIZWR TURTL TRKS	29.95
WORD ATTACK!	39.95
WORDSTAR	249.95
WRITE-ON	94.95
ZENITH	29.95



We will try to meet or beat any advertised price!

CALL US... WE CAN HELP! 1-800-222-2602

For technical assistance, order status and California calls (619) 765-0239
Apple Country, Ltd., P.O. Box 1099, 2602 Washington St., Julian, Calif. 92036

Terms: We accept American Express. No extra charge for Visa/MasterCard, Cashier's Check, personal check (allow 2 weeks to clear) Shipping & Handling: 5% ($5 min.); APO FPO Alaska Hawaii & Monitors 5% ($10 min.) Foreign orders 15% ($15 min.) All items are new with manufacturer's warranty. Prices are subject to availability & change without notice. Purchase order must include check. California residents add 6% sales tax. Send $1 (good toward first purchase) for new fall catalog.

Apple Country, Ltd. is a DISCOUNT MAIL ORDER HOUSE for the micro computer industry and is a California corporation not affiliated with Apple Computer Inc. Apple is a trademark of Apple Computer Inc.

Circle HelpCard No.02

BACK-UP ALMOST ANYTHING!

Products below, when used appropriately, either singly or together, will enable you to copy virtually all software for the relevant computer. The copy-products are intended to be used for back-up purposes only! Products are Apple-compatible unless otherwise indicated.

Locksmith	75	Crack-Shot	129
Back-It-Up	49	Snap-Shot	Call
Nibbles-Away	59	Wild-Card IIE	115
Watson	39	Inspector	45
Copy II +	35	Copy II + (IBM PC)	35

CONNECTICUT INFORMATION SYSTEMS
218 Huntington Road
Bridgeport, CT 06608
203-579-0472

TO ORDER: Use phone or mail. VISA, MC, Checks & bank wires accepted. Add 4% for shipping, or $4, whichever is more. Conn. residents add 7.5% sales tax.

Not responsible for typographical errors. Prices subject to change without notice. **Circle HelpCard No.08**

ProFILER Data Base Manager

Featuring ProDOS*
APPLE'S NEW DISK OPERATING SYSTEM
(Included at no extra cost.)

The first truly EASY data base manager

- Store more than 1500 records per disk
- Compatible with the Apple ProFILE* Hard Disk (up to 65,000 records per file on Hard Disk)
- Indexed files for instant record access
- Design any form to fit YOUR needs
- Full screen editing of forms and data
- Easier to use than dBASE II* and faster than PFS*
- Includes easy to use Report Generator — FREE!

REALLY FAST!
WRITTEN ENTIRELY IN ASSEMBLY LANGUAGE

WHY PAY DOUBLE FOR HALF THE PERFORMANCE...
Limited offer — test market special

ONLY $49.95

ProFILER available only from
CUSTOM COMPUTER PRODUCTS
355 COSTA MESA ST. • COSTA MESA, CA 92627
CALL (714) 548-5429

TERMS: Mastercard, Visa, Check or Money Order. (Allow time for checks to clear)
Add $2.00 for P. & H.
Calif. Cust. add 6%

P.S. The sellout Super Applesoft Line Editor is still available from Custom Computer Products for only $24.95

* Apple, Applesoft and ProFILE are registered trademarks of Apple Computer, Inc.
dBASE II is a registered trademark of Ashton Tate, Inc.
PFS is a registered trademark of Software Publishing Corp.

Circle HelpCard No.09

- Payroll Module
- Inventory

For further information, contact Sheila Fiechtner, at (701) 281-0550.
Circle HelpCard No. 423
Great Plains Software
1701 S.W. 38th Street
Fargo, ND 58103

Property Management, for Apple II computers, performs all bookkeeping functions from any residential or commercial property with as many as 1,000 renters or leasers (depending on hardware). Financial records, including income and expense summaries, and individual tenant records can be generated. $495.00.
Circle HelpCard No. 424
Continental Software
11223 South Hindry Avenue
Los Angeles, CA 90045
(213) 417-8031

Spreadsheets

SuperCalc 3 includes presentation-quality graphics, data management and text-editing capabilities. The program can run on the Apple //e when the Rana 8086/2 peripheral has been installed. (See NewStuff, Apple Orchard, February, 1984.) SuperWriter can add full-feature word-processing capabilities including integrated form-letter generation and a spelling checker. SuperCalc 3 will be available on Lisa 2 and Apple 32 Supermicro computers in third quarter, 1984. For further information, contact Eric Lund, at (408) 942-1727.
Circle HelpCard No. 426
Sorcim Corporation
2310 Lundy Avenue
San Jose, CA 95131

PractiCalc II, for the 48K Apple II Plus and //e computers, is a spreadsheet program with features including word processing, advanced editing, variable column widths, 80 column screen (with Apple //e 80-column card), upper and lower case entry and printing for the Apple //e, and an on-screen default menu, and alpha and numeric sorting. $69.95.
Circle HelpCard No. 427
Micro Software International
The Silk Mill
44 Oak Street
Newton Upper Falls, MA 02164
(617) 527-7510

Communications

Mite, a data communications and file transfer system for Apple II computers (running under CP/M), interfaces to a number of computer configurations. Installation instructions are included for use with cards, including: Apple 80-column, Videx Videoterm, M and R Superterm, ALS Dispatcher, CCS 7710, Hayes Micromodem II, and Super Serial. It offers full modem control support for most popular auto-dial/auto-answer and manual modems. $150.00.
Circle HelpCard No. 428
Mycroft Labs, Inc.
P.O. Box 6045
Tallahassee, FL 32314
(904) 385-1141

Educational

MacManager, for the Macintosh Computer, is a business simulation program. The players run a hypothetical company. They can graphically "see" production, plant capacity and physical inventory as they make business decisions based upon financial data. $49.95.
Circle HelpCard No. 430
Harvard Associates, Inc.
260 Beacon Street
Somerville, MA 02143
(617) 492-0660

New Horizons: The Educator's Computer Literacy Series, designed to run on Apple II Plus and //e systems, is a sixteen hour videotape (8 module) series that includes comprehensive printed materials. It helps educators to effectively introduce computers into their classrooms.
Circle HelpCard No. 431
Darryl L. Sink & Associates, Inc.
1155 N. First Street, Suite 201
San Jose, CA 95112
(408) 297-3900

Supermap, for the Apple II, is a computerized atlas and almanac; it is also a guide and self-paced educational journey of over three hundred cities. $39.95.
Circle HelpCard No. 435
Softsmith Corporation
1431 Doolittle drive
San Leandro, CA 94577
(415) 430-2411

A **health educational poisoning tutorial**, for the Apple II, II Plus, and //e computer, is available on diskette. The menu-driven program gives the average person an overall view of poisoning. $39.95 plus $2.50 s/h.
Circle HelpCard No. 438
Health Ed Software
P.O. Box 1209
Fairfield, IA 52556

BV Engineering announces a new line of engineering/educational programs for

Apple II computers with CP/M installed.

- **ACNAP: Electronic Circuit Analysis Program**, $49.95 plus $3.00 s/h.
  Circle HelpCard No. 440
- **SSP: Signal Processing Program**, $59.95 plus $3.00 s/h.
  Circle HelpCard No. 441
- **PLOTPRO: Scientific Graph Printing Program**, Version 2.0, includes manual and sample data files. $49.95 plus $3.00 s/h.
  Circle HelpCard No. 442

More new programs will be released shortly, including programs for DC Network Analysis, Root Locus, Static and Transient Thermal Analysis, and Transfer Function Synthesis Programs.
BV Engineering
Professional Software
P.O. Box 3351
Riverside, CA 92519
(714) 781-0252

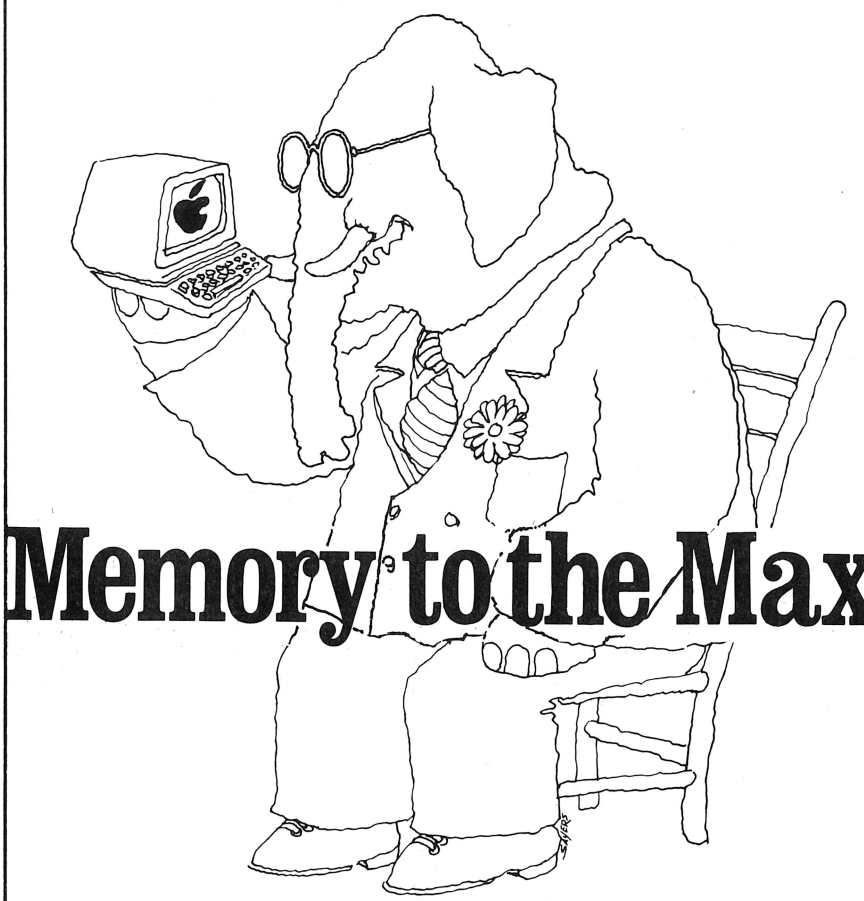
Oakleaf Systems offers the following new programs for the Apple II Plus and //e:

- **Evolution: a simulation**. $29.95.
  Circle HelpCard No. 443
- **Algal Growth: a simulation**. $29.95.
  Circle HelpCard No. 444
- **Ecological Analysis Programs**. (Seven programs on one disk.) $29.95.
  Circle HelpCard No. 445
- **Aquatic Ecology Programs**. (Seven programs on one disk.) $29.95.
  Circle HelpCard No. 446
- **Key-Stat** (Over twenty common parametric and non-parametric statistical tests.) $49.95.
  Circle HelpCard No. 447

Oakleaf Systems
P.O. Box 472
Decorah, IA 52101

LogoMotion for the Apple was developed to create an interactive environment, a mathland, in which students can set their own pace, problems and goals. Age range is from young children to adults. $149.95.
Circle HelpCard No. 448
Softwmith Corporation
1431 Doolittle Drive
San Leandro, CA 94577
(415) 430-2411

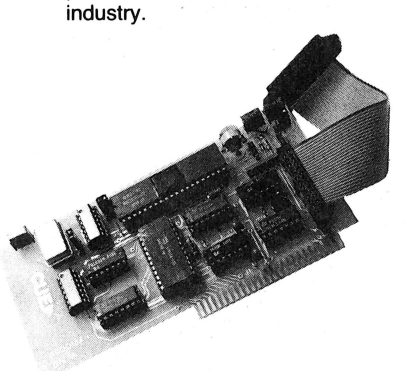
Professor CP/M 3T, a simulation of an entire Computer Literacy school course from enrollment to graduation, teaches, trains and tests. Interactive study is aided by a tutorial "Genie," that responds to student inquiries. $99.00.
Circle HelpCard No. 449
Software Academy
2222 Morley Street
San Diego, CA 92111
(619) 571-8411



Memory to the Max

The DiscMaster II by Data Cue expands the storage of your Apple II or Apple II compatable systems. The DiscMaster allows you to connect two 8″ or two 3½ ″ double density disk drives per controller to your computer. The drivers are supplied for DOS 3.3 and PASCAL 1.1 operating systems. Optional drivers are available to read and write standard 8″ CP/M, IBM P.C., and SUPERBRAIN disks.

The DiscMaster II is completely contained on a single Apple II compatible I/O board which can be installed in any one of six of the eight peripheral slots in the computer. The DiscMaster uses the latest technology in floppy disk controllers to give a price performance ratio unmatched in the industry.



Disk size for PASCAL and DOS

5″ SSDD	**164K**
5″ DSDD	**327K**
3½″ SONY	**286K**
3″ AMDEK	**164K**
8″ SSSD	**256K**
8″ SSDD	**512K**
8″ DSDD	**1024K**

Compatible with
Shugart 801/851
Shugart 801/851 compatible drives
Tandon 100
Tandon 100 compatible drives

DATA CUE
incorporated
5696 HIGHWAY 431 SOUTH
BROWNSBORO, AL 35741
(205) 883-2933

Circle HelpCard No.10

Advertisers' Index

Page	Advertiser	Help #
Cover 4	ALF Products	001
5	Apple Computer	
65	Apple Country	002
25	Applied Engineering	
71	Applied Engineering	
75	Argonaut Distributors	003
68	Artemis	004
64	Calc Shop	006
35	Central Point	007
66	Connecticut Information	008
66	Custom Computer	009
67	Datacue	010
Cover 2	Dennison	011
75	Doublestuff Software Inc.	032
53	Douglas Electronics	012
17	East Side Software	013
78	Elek-Tek	040
4	Expanding Space	014
4	Fiberbilt	015
76	Flowersoft	016
38,41	International Apple Core	017
73	International Apple Core	017
7	Jandel	041
75	Jandel	042
78	Jandel	043
63	Johnson Products	018
13	Lazerware	019
74	Manx Software	020
47	Nibble	021
77	Nibble	022
19	Peelings	023
74	Phillips	024
44	Precision Software	025
57	Pro-Pac	026
28	Protecto	027
29	Protecto	028
Cover 3	Quentin	029
44	Quorum	030
61	Softinson Data Corp.	
78	Softkey	031
7	Stellation Two	033
21	Tex Print	034
31	Thunderware	035
15	Turning Point	036
1	United Software	037
7	Videx	038
23	Zoom Telephonics	039

This index is an additional service. While every effort is made to provide a complete and accurate listing, the publisher cannot be responsible for inadvertent errors.

Software For Pascal Users

Catalog your Pascal disks

- Creates master catalog and saves it
- Flexible search w/ wildcards
- Automatically reads and sorts all files
- Screen list or hard copy

Pascat™ $25

Terminal I/O unit a must for your Pascal library

- Device independent
- Field oriented with defaults
- Built-in editor (insert, delete, replace, clear, etc.)
- Source & object code
- Input checking prevents user error
- No licensing fee

Screen Unit™ $45

Keep tabs on your important contacts

- Simple to use database
- Complete screen editing
- Flexible search w/ wildcards
- Hard copy in variable formats
- Approx. 200 116-character records in each file
- Includes Name, Address, Phone, & Comments Fields

Telephile™ $20

TO ORDER OR FOR INFORMATION ON ALL PRODUCTS CALL
(201) 564-9333

PRODUCE UNIQUE COLOR GRAPHICS IN 3D!

Create, edit, move, rotate, translate.

Program amazing graphics quickly and easily without ever leaving BASIC.

Games, animation, CAD . . . with Metalogic™ the possibilities are limited only by your imagination — not your software.

Requires: SubLogic's A2-3D2; Apple][Plus & RAM Card (or Apple //e); DOS 3.3

$75 (or $180 including complete SubLogic graphics package)

Apple][,][Plus, and //e, DOS 3.3 are trademarks of Apple Computer Corp. A2-3D2 is a trademark of SubLogic Corp.

SPEED UP YOUR APPLE][or][+ FOR LESS

We have the Number Nine Booster Card™ which is exactly the same as the Accelerator II™ from Titan Technologies, Inc.

- 3.6 times faster operation
- transparent execution
- 64K of high speed memory includes 16K "language card"

Retail price **$600**
Our price **$499**

ARTEMIS SYSTEMS, INC.
41 Parkview Drive, Millburn, N.J. 07041

MasterCard VISA

New Jersey res. add 6%
3rd class postage pd all orders
add $2 for 1st class mail

Circle HelpCard No. 4

FIND OUT MORE FREE!

Apple Orchard provides these inquiry cards to help you get answers!

SEND IT IN►

PASS IT ON►

Use these convenient inquiry cards to request free information about the products or services advertised in this issue of Apple Orchard.

For information about specific advertisers or products, circle the number on the card that matches the Help Number shown with the item, or in the Advertisers' Index.

Just drop one of the postage paid cards in the mail and your request will be immediately forwarded to the company or companies.

Name _____ **Title** _____

Company _____

Address _____

City _____ **State** _____ **Zip** _____

Please check one box in each category:

1. **This copy of Apple Orchard came to me through**
   - A. ☐ User Group
   - B. ☐ Computer Store
   - C. ☐ News Stand
   - D. ☐ Borrowed
   - E. ☐ Subscription
   - F. ☐ Book Store
   - G. ☐ School
2. **I personally use most:**
   - A. ☐ Apple II/II Plus
   - B. ☐ Apple / / /
   - C. ☐ Apple Workalike
   - D. ☐ Apple / /e
   - E. ☐ Lisa
   - F. ☐ IBM PC or workalike
   - G. ☐ Don't own yet
   - H. ☐ Other
3. **I have owned a microcomputer since**
   - A. ☐ before 1977
   - B. ☐ 1978
   - C. ☐ 1980
   - D. ☐ 1982
   - E. ☐ not yet
   - F. ☐ 1977
   - G. ☐ 1979
   - H. ☐ 1981
   - I. ☐ 1983
4. **I use my computer primarily for**
   - A. ☐ Home
   - B. ☐ My Business
   - C. ☐ Hobby
   - D. ☐ Education
   - E. ☐ Other
5. **I use my computer primarily with**
   - A. ☐ Word Processor
   - B. ☐ Business Software
   - C. ☐ Modem
   - D. ☐ Graphics
   - E. ☐ Electronic Spreadsheet
   - F. ☐ Data Base
   - G. ☐ Games
   - H. ☐ Control of other Devices
6. **I spent on software in the past 12 months:**
   - A. ☐ less than $100
   - B. ☐ $100 - $300
   - C. ☐ $300 - $600
   - D. ☐ $600 - $1,000
   - E. ☐ More than $1,000
7. **Regarding User Groups:**
   - A. ☐ I belong to a local group
   - B. ☐ I'm active in a User Group
   - C. ☐ I have never belonged to a local group
   - D. ☐ I used to belong to a local group, but don't now
8. **My vote for the best article in this issue is**
   .....
9. **My vote for the best ad in this issue is (Reader Service) number**.....

Check each advertisement for corresponding number and circle below:

001	041	081	121	161	201	241
002	042	082	122	162	202	242
003	043	083	123	163	203	243
004	044	084	124	164	204	244
005	045	085	125	165	205	245
006	046	086	126	166	206	246
007	047	087	127	167	207	247
008	048	088	128	168	208	248
009	049	089	129	169	209	249
010	050	090	130	170	210	250
011	051	091	131	171	211	251
012	052	092	132	172	212	252
013	053	093	133	173	213	253
014	054	094	134	174	214	254
015	055	095	135	175	215	255
016	056	096	136	176	216	256
017	057	097	137	177	217	257
018	058	098	138	178	218	258
019	059	099	139	179	219	259
020	060	100	140	180	220	360
021	061	101	141	181	221	361
022	062	102	142	182	222	362
023	063	103	143	183	223	363
024	064	104	144	184	224	364
025	065	105	145	185	225	365
026	066	106	146	186	226	366
027	067	107	147	187	227	367
028	068	108	148	188	228	368
029	069	109	149	189	229	369
030	070	110	150	190	230	360
031	071	111	151	191	231	361
032	072	112	152	192	232	362
033	073	113	153	193	233	363
034	074	114	154	194	234	364
035	075	115	155	195	235	365
036	076	116	156	196	236	366
037	077	117	157	197	237	367
038	078	118	158	198	238	997
039	079	119	159	199	239	998
040	080	120	160	200	240	999

NOTE:

To speed the processing of your inquiry, please provide all of the information requested on the card. This will make it easier for the companies to follow up on your request as soon as possible.

APPLE ORCHARD JUNE 1984 EXPIRES SEPTEMBER 1, 1984

Name _____ **Title** _____

Company _____

Address _____

City _____ **State** _____ **Zip** _____

Please check one box in each category:

1. **This copy of Apple Orchard came to me through**
   - A. ☐ User Group
   - B. ☐ Computer Store
   - C. ☐ News Stand
   - D. ☐ Borrowed
   - E. ☐ Subscription
   - F. ☐ Book Store
   - G. ☐ School
2. **I personally use most:**
   - A. ☐ Apple II/II Plus
   - B. ☐ Apple / / /
   - C. ☐ Apple Workalike
   - D. ☐ Apple / /e
   - E. ☐ Lisa
   - F. ☐ IBM PC or workalike
   - G. ☐ Don't own yet
   - H. ☐ Other
3. **I have owned a microcomputer since**
   - A. ☐ before 1977
   - B. ☐ 1978
   - C. ☐ 1980
   - D. ☐ 1982
   - E. ☐ not yet
   - F. ☐ 1977
   - G. ☐ 1979
   - H. ☐ 1981
   - I. ☐ 1983
4. **I use my computer primarily for**
   - A. ☐ Home
   - B. ☐ My Business
   - C. ☐ Hobby
   - D. ☐ Education
   - E. ☐ Other
5. **I use my computer primarily with**
   - A. ☐ Word Processor
   - B. ☐ Business Software
   - C. ☐ Modem
   - D. ☐ Graphics
   - E. ☐ Electronic Spreadsheet
   - F. ☐ Data Base
   - G. ☐ Games
   - H. ☐ Control of other Devices
6. **I spent on software in the past 12 months:**
   - A. ☐ less than $100
   - B. ☐ $100 - $300
   - C. ☐ $300 - $600
   - D. ☐ $600 - $1,000
   - E. ☐ More than $1,000
7. **Regarding User Groups:**
   - A. ☐ I belong to a local group
   - B. ☐ I'm active in a User Group
   - C. ☐ I have never belonged to a local group
   - D. ☐ I used to belong to a local group, but don't now
8. **My vote for the best article in this issue is**
   .....
9. **My vote for the best ad in this issue is (Reader Service) number**.....

Check each advertisement for corresponding number and circle below:

001	041	081	121	161	201	241
002	042	082	122	162	202	242
003	043	083	123	163	203	243
004	044	084	124	164	204	244
005	045	085	125	165	205	245
006	046	086	126	166	206	246
007	047	087	127	167	207	247
008	048	088	128	168	208	248
009	049	089	129	169	209	249
010	050	090	130	170	210	250
011	051	091	131	171	211	251
012	052	092	132	172	212	252
013	053	093	133	173	213	253
014	054	094	134	174	214	254
015	055	095	135	175	215	255
016	056	096	136	176	216	256
017	057	097	137	177	217	257
018	058	098	138	178	218	258
019	059	099	139	179	219	259
020	060	100	140	180	220	360
021	061	101	141	181	221	361
022	062	102	142	182	222	362
023	063	103	143	183	223	363
024	064	104	144	184	224	364
025	065	105	145	185	225	365
026	066	106	146	186	226	366
027	067	107	147	187	227	367
028	068	108	148	188	228	368
029	069	109	149	189	229	369
030	070	110	150	190	230	360
031	071	111	151	191	231	361
032	072	112	152	192	232	362
033	073	113	153	193	233	363
034	074	114	154	194	234	364
035	075	115	155	195	235	365
036	076	116	156	196	236	366
037	077	117	157	197	237	367
038	078	118	158	198	238	997
039	079	119	159	199	239	998
040	080	120	160	200	240	999

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY CARD

FIRST CLASS PERMIT NO. 217 CLINTON, IOWA

POSTAGE WILL BE PAID BY ADDRESSEE

Apple Orchard
Direct Help Department

P.O. BOX 2520

CLINTON, IOWA 52735

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY CARD

FIRST CLASS PERMIT NO. 217 CLINTON, IOWA

POSTAGE WILL BE PAID BY ADDRESSEE

Apple Orchard
Direct Help Department

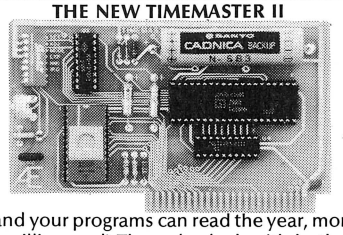
P.O. BOX 2520

CLINTON, IOWA 52735

Apple Peripherals Are All We Make
That's Why We're So Good At It!

THE NEW TIMEMASTER II

Automatically date stamps files with PRO-DOS



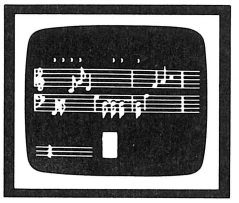
NEW 1984 DESIGN
An official PRO-DOS Clock

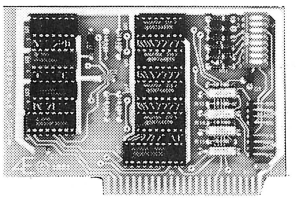
- Just plug it in and your programs can read the year, month, date, day, and time to 1 millisecond! The only clock with both year and ms.
- NiCad battery keeps the TIMEMASTER II running for over ten years.
- Full emulation of ALL other clocks. Yes, we emulate Brand A, Brand T, Brand P, Brand C, Brand S and Brand M too. It's easy for the TIMEMASTER to emulate other clocks, we just drop off features. That's why we can emulate others, but others CAN'T emulate us.
- The TIMEMASTER II will automatically emulate the correct clock card for the software you're using. You can also give the TIMEMASTER II a simple command to tell it which clock to emulate (but you'll like the Timemaster mode better). This is great for writing programs for those poor unfortunates that bought some other clock card.
- Basic, Machine Code, CP/M and Pascal software on 2 disks!
- Eight software controlled interrupts so you can execute two programs at the same time (many examples are included).
- On-board timer lets you time any interval up to 48 days long down to the nearest millisecond.

The TIMEMASTER II includes 2 disks with some really fantastic time oriented programs (over 40) including appointment book so you'll never forget to do anything again. Enter your appointments up to a year in advance then forget them. Plus DOS dater so it will automatically add the date when disk files are created or modified. The disk is over a $200.00 value alone—we give the software others sell. All software packages for business, data base management and communications are made to read the TIMEMASTER II. If you want the most powerful and the easiest to use clock for your Apple, you want a TIMEMASTER II.

PRICE $129.00

Super Music Synthesizer
Improved Hardware and Software

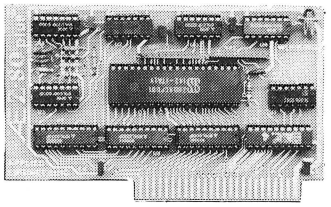




- Complete 16 voice music synthesizer on one card. Just plug it into your Apple, connect the audio cable (supplied) to your stereo, boot the disk supplied and you are ready to input and play songs.
- It's easy to program music with our compose software. You will start right away at inputting your favorite songs. The Hi-Res screen shows what you have entered in standard sheet music format.
- Now with new improved software for the easiest and the fastest music input system available anywhere.
- We give you lots of software. In addition to Compose and Play programs, 2 disks are filled with over 30 songs ready to play.
- Easy to program in Basic to generate complex sound effects. Now your games can have explosions, phaser zaps, train whistles, death cries. You name it, this card can do it.
- Four white noise generators which are great for sound effects.
- Plays music in true stereo as well as true discrete quadraphonic.
- Full control of attack, volume, decay, sustain and release.
- Will play songs written for ALF synthesizer (ALF software will not take advantage of all our card's features. Their software sounds the same in our synthesizer.)
- Our card will play notes from 30HZ to beyond human hearing.
- Automatic shutoff on power-up or if reset is pushed.
- Many many more features.

PRICE $159.00

Z-80 PLUS!



- TOTALLY compatible with ALL CP/M software.
- The only Z-80 card with a special 2K "CP/M detector" chip.
- Fully compatible with microsoft disks (no pre-boot required).
- Specifically designed for high speed operation in the Apple IIe (runs just as fast in the II+ and Franklin).
- Runs WORD STAR, dBASE II, COBOL-80, FORTRAN-80, PEACHTREE and ALL other CP/M software with no pre-boot.
- A semi-custom I.C. and a low parts count allows the Z-80 Plus to fly thru CP/M programs at a very low power level. (We use the Z-80A at fast 4MHZ.)
- Does EVERYTHING the other Z-80 boards do, plus Z-80 interrupts.

Don't confuse the Z-80 Plus with crude copies of the microsoft card. The Z-80 Plus employs a much more sophisticated and reliable design. With the Z-80 Plus you can access the largest body of software in existence. Two computers in one and the advantages of both, all at an unbelievably low price.

PRICE $139.00

Viewmaster 80

There used to be about a dozen 80 column cards for the Apple, now there's only ONE.

- TOTALLY Videx Compatible.
- 80 characters by 24 lines, with a sharp 7x9 dot matrix.
- On-board 40/80 soft video switch with manual 40 column override
- Fully compatible with ALL Apple languages and software—there are NO exceptions.
- Low power consumption through the use of CMOS devices.
- All connections are made with standard video connectors.
- Both upper and lower case characters are standard.
- All new design (using a new Microprocessor based C.R.T. controller) for a beautiful razor sharp display.
- The VIEWMASTER incorporates all the features of all other 80 column cards, plus many new improvements.

	PRICE	BUILT IN SOFTSWITCH	SHIFT KEY SUPPORT	LOW POWER DESIGN	80 COLUMN HOME	7x9 DOT MATRIX	LIGHT PEN INPUTS	40 COLUMN OVERRIDE	INVERSE CHARACTERS
VIEWMASTER	**179**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**
SUP'RTERM	MORE	NO	YES	NO	NO	NO	NO	YES	YES
WIZARD80	MORE	NO	NO	NO	NO	YES	NO	YES	YES
VISION80	MORE	YES	YES	NO	NO	YES	NO	NO	NO
OMNIVISION	MORE	NO	YES	NO	NO	NO	NO	YES	YES
VIEWMAX80	MORE	YES	YES	NO	NO	YES	NO	NO	YES
SMARTERM	MORE	YES	YES	NO	NO	NO	YES	YES	NO
VIDEOTERM	MORE	NO	NO	YES	NO	YES	YES	NO	YES

The VIEWMASTER 80 works with all 80 column applications including CP/M, Pascal, WordStar, Format II, Easywriter, Apple Writer II, VisiCalc, and all others. The VIEWMASTER 80 is THE MOST compatible 80 column card you can buy at ANY price!

PRICE $179.00

MemoryMaster IIe 128K RAM Card

- Expands your Apple IIe to 192K memory.
- Provides an 80 column text display.
- Compatible with all Apple IIe 80 column and extended 80 column card software (same physical size as Apple's 64K card).
- Can be used as a solid state disk drive to make your programs run up to 20 times FASTER (the 64K configuration will act as half a drive).
- Permits your IIe to use the new double high resolution graphics.
- Automatically expands Visicalc to 95 K storage in 80 columns! The 64K config. is all that's needed, 128K can take you even higher.
- PRO-DOS will use the MemoryMaster IIe as a high speed disk drive.
- Precision software disk emulation for Basic, Pascal and CP/M is available at a very low cost. NOT copy protected.
- Documentation included, we show you how to use all 192K.

If you already have Apple's 64K card, just order the MEMORYMASTER IIe with 64K and use the 64K from your old board to give you a full 128K. (The board is fully socketed so you simply plug in more chips.)

MemoryMaster IIe with 128K **$249**
Upgradeable MemoryMaster IIe with 64K **$169**
Non-Upgradeable MemoryMaster IIe with 64K **$149**

Our boards are far superior to most of the consumer electronics made today. All I.C.'s are in high quality sockets with mil-spec. components used throughout. P.C. boards are glass-epoxy with gold contacts. Made in America to be the best in the world. All products work in the APPLE IIE, II, II+ and Franklin. The MemoryMaster IIe is IIe only. Applied Engineering also manufactures a full line of data acquisition and control products for the Apple; A/D converters and digital I/O cards, etc. Please call for more information. All our products are fully tested with complete documentation and available for immediate delivery. All products are guaranteed with a no hassle **THREE YEAR WARRANTY.**

Texas Residents Add 5% Sales Tax
Add $10.00 If Outside U.S.A.
Dealer Inquiries Welcome

Send Check or Money Order to:
APPLIED ENGINEERING
P.O. Box 798
Carrollton, TX 75006

Call (214) 492-2027
8 a.m. to 11 p.m. 7 days a week
MasterCard, Visa & C.O.D. Welcome
No extra charge for credit cards

Viewport A Short Look At Industry News

by Gene Wilson

As hackers and data thieves have become more sophisticated, so have efforts to protect against unauthorized use of corporate (and personal) computers. While the major thrust of protection has been to "armor-plate" software used within the computer, the Lockheed-Georgia Company has been working in a slightly different area. Their Data Sentry, a new "intelligent" modem, requests the phone number of anyone requesting access to its computer. It then hangs up, looks through a list of authorized numbers, then calls back and asks for a password. Three tries are allowed, then no further access is permitted. An audit trail of successful, and more importantly, unsuccessful phone numbers is kept for future use. We predict that hackers and would-be-pirates won't like this device at all!

During a developer's conference the recent West Coast Computer Faire, held in San Francisco, Apple Computer's representatives "admitted" that a half-megabyte version of the Macintosh computer would be available by the end of the year. Incidentally, Apple was able to draw huge crowds by showing pre-release versions of new software. MacProject, MacPascal, and MacBASIC were very popular. Look for Apple, as well as third-party vendors, to upgrade popular Apple Plus and Apple /// software packages to operate with the new "mouse". Look for further enhanced capabilities for the //e (and the new //c) with extended memory, as well.

Now ". . . going up the river," can be fun, educational, and tax deductible. CLASS Associates, Inc., in cooperation with the Delta Queen Steamship Co., offers a floating computer-familiarization course. The seven-night cruise on the Mississippi River, covers computer instruction, five gourmet meals daily, room accomodations, and ship board activities including entertainment and dancing each night. Tennis and golf are available at private clubs along the route. Best feature is that the whole cruise is tax deductible and can be "written-off" as ". . . a business meeting aboard a ship operating in the U.S."!

Financial

Legal Billing, for the Apple II or //e (with two disk drives), features a "Video Time-Slip" modeled after a standard office form. The program handles up to 36 service codes, 18 lawyers, and 200 clients. $399.00. For further information contact Hugh Rogovy, Marketing, at (206) 633-1469.
Circle HelpCard No. 450
Satori Software
5507 Woodlawn N.
Seattle, WA 98103

The **Home Accountant** is now available for the Macintosh computer. This version utilizes the Macintosh technology with advanced windowing features. $99.95.
Circle HelpCard No. 452
Continental Software
11223 South Hindry Ave.
Los Angeles, CA 90045
(213) 417-8031

The **Home Cataloger**, for the Apple II and //e computers, allows up to 1,500 individual entries (depending on hardware). The user can create customized filing systems, or select one of the program's ten pre-designed cataloging lists. $49.95.
Circle HelpCard No. 453
Continental Software
11223 South Hindry Ave.
Los Angeles, CA 90045
(213) 417-8031

The **Farm Accountant**, for Apple //e computers (with 64K), is a double entry general ledger created specifically with the needs of farmers in mind. $195.00 (Canadian).
Circle HelpCard No. 454
Digipac Computer Consulting
907 River Street East
Prince Albert
Saskatchewan S6V 0B3
(306) 764-1707

Games/Simulations

Jenny of the Prairie, one of four non-violent adventure games released by Rhiannon, was created especially for girls. This survival story is about a pioneer girl, who becomes separated from her covered wagon train, and must explore her surroundings in an effort to survive the advancing Winter alone. For all Apple II computers, $39.95. For further information, contact Margaret Tuttle, Marketing, at (617) 944-3700.
Circle HelpCard No. 458
Addison-Wesley
General Books Division
Reading, MA 01867

Sams offers three new games for the Apple II with 48K, Applesoft in ROM, DOS 3.3, and one disk drive. Game paddles and color monitor are optional:

- In **Spud**, two players match wits as each tries to weaken and penetrate the opposition's protective shields with an exploding spud.
  Circle HelpCard No. 459
- In **Mug Shot**, a game for one to four players, each player has a fort and a field of five "mugs" inside a trap; these mugs must be released, and then destroyed before they can destroy the player's fort.

Both games sold together, for $29.95.
Circle HelpCard No. 460

- **Regatta**, for one or two players, lets the player(s) choose any of four lakes, then lets the player(s) set sail and control the tiller around a marked course. Program keeps track of elapsed race time. A manual is included. $29.95.
  Circle HelpCard No. 461

Howard W. Sams & Co., Inc.
4300 W. 62nd Street
Indianapolis, IN 46268
(317) 298-5400

Graphics

Metalogic, for use with Apple II computers (with 16K RAM board and DOS 3.3), is a comprehensive set of ampersand commands that interface Applesoft BASIC to SubLogic's A2-3D2 graphics interpreter. Manual is included, $75.00 plus shipping.
Circle HelpCard No. 462
Artemis Systems, Inc.
41 Parkview Drive
Millburn, NJ 07041
(201) 564-9333

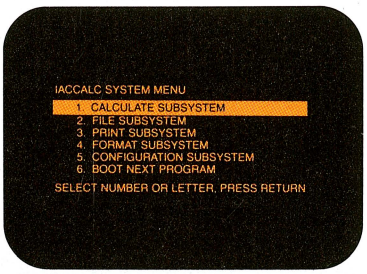
A BEAUTY FOR THE BEAST

For most business people, the spreadsheet can be a beast. But it's an important business tool. That's why so many companies are selling electronic spreadsheet programs. And promising you their's is the most powerful and easiest to use. At the best price.

Like other electronic spreadsheets, IACcalc™ lets you forecast, model, recalculate and make accurate business decisions faster. Unlike other electronic spreadsheets, IACcalc doesn't cost you a bundle to do so. That's the beauty.

But, that sounds like what everyone else is saying, right?

Read on.



IACcalc System screen defines subsystems.

Here's the lowdown.

IACcalc is the second generation of spreadsheet programs. It utilizes the most current software and hardware breakthroughs. Like no one elses.

IACcalc works with all the popular 80-column boards for Apple Computers. Even the Apple //e. It supports multiple RAM cards in any combination up to 512K. And has a 70-column video display with upper and lower case (when not using an 80-column board). This is only an option with other programs.

You can read VisiCalc® models directly and store your data on hard disk. Or create invisible columns for confidential information. Protect cells to prevent inadvertant erasure or to setup templates. And make individual column widths to fit your text and data entries.

Give yourself a break.

No more blank spreadsheet screens leaving you guessing which way to go. Our easy-to-use menu screens make IACcalc simple and quick. All you do is press the ESC key and pick the option number you wish to use. That's it.

IACcalc menus will help you load and save worksheets. Or print data. Or format page layouts. Or configure your system parameters. Or leave IACcalc and run another program—without turning your computer off. And, of course, our interactive worksheet is menu accessed.

Save yourself from those long, time-consuming command sequences. Instantly scroll to the top-left or bottom-right of your worksheet.

You can use invisible columns as a third-window on your data. For example, bring first and last quarter figures together, leaving the title and other windows unchanged. And for fast entry of information into templates, you can "tab" from field to field easily.

IACcalc™

Putting it in print.

What if you need to produce printouts of large worksheets? What if your worksheet is wider or longer than a page? The average spreadsheet can't help you there. But, we can.

IACcalc will automatically format your data with left and right, top and bottom margins. It will split it into multiple printout pages at column boundaries. And the menu makes it easy for you to change the page format, if you wish.

Now, if you're still not convinced...

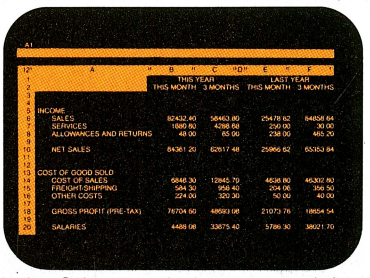
The most important feature of all won't be found on any of the menus.

Our price. Only $84.95. And that includes a backup copy. So you can revise your budgets without having to revise your budget.

Now, the best way to find out if IACcalc is all we say it is—is to try it. That's why we offer a 30 day money-back guarantee.

Order your copy today and when you receive it, try it on your spreadsheet problems for 30 days. Then if you decide not to keep it, return it and get all your money back.

But, when you see how powerful IACcalc is for the money, you'll agree it's the beauty to tame the business beast.

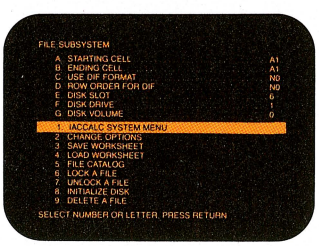


Calculate Subsystem, the interactive worksheet.

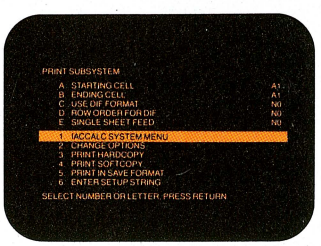
To order your copy of IACcalc, call (408) 727-7713 (VISA and MasterCard orders only.)

To order by mail, send check or money order to: International Apple Core, 908 George Street, Santa Clara, CA 95050. Payment made out to International Apple Core must accompany order and must be in U.S. funds drawn on U.S. bank. California residents add $5.52 sales tax. Include $2.50 for shipping. Airmail outside U.S., Canada and Mexico add $11.00 shipping.

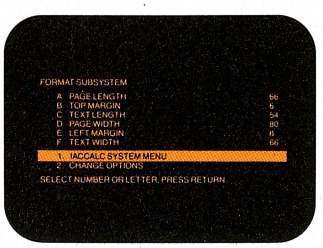
Please allow 3 to 4 weeks for delivery.



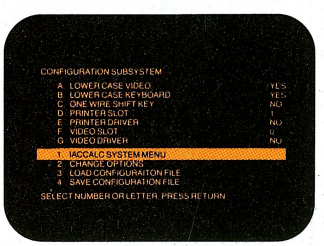
File Subsystem handles disk operations.



Print Subsystem manages data printing.



Format Subsystem defines page layout.



Configuration Subsystem structures IACcalc to your Apple.

INTERNATIONAL APPLE CORE™

©1983 International Apple Core

Apple and Apple //e are registered trademarks of Apple Computer, Inc.

VisiCalc is a registered trademark of VisiCorp.

Circle HelpCard No.17

Graphiti, a graphics plotting package for Apple II and II Plus computers, provides plots for scientists, engineers, and other technical persons. $25.00. For further information, contact Claude H. Joseph, President, at (303) 277-1948.
Circle HelpCard No. 463
The Geobyte Company
207 Allen Street
Golden, CO 80401

Languages (Programming)

Bug Off!, a Pascal Debugging System for use with Apple II Pascal (versions 1.1 and 1.2), allows the user to monitor variable values, set breakpoints, single-step, list a text file to the screen, and execute pre-defined macros. The program is interactive, and displays help information on-screen when "?" key is pressed. $49.95.
Circle HelpCard No. 464
First Byte, Inc.
2845 Temple Avenue
Long Beach, CA 90806
(800) 624-2692 (CA)
(900) 523-8070 (Nationwide)

Music

Two new products enhance the DX-1 sound processing system for Apple II and //e computers:

- The **DX-1 ECHO** adds real time audio processing, echoing and reverb. Over 40 key selectable routines are provided with control over various parameters. $149.00.
  Circle HelpCard No. 465
- **Four additional volumes** (2 thru 5, on four diskettes) of pre-recorded sounds, ranging from "music" to "miscellaneous," with 18 to 24 sounds per diskette. A guide is included. $79.00.
  Circle HelpCard No. 466

Decillionix
P.O. Box 70985
Sunnyvale, CA 94086
(408) 732-7758

Personal

Friends or Lovers, helps couples evaluate their relationship. $29.95. For further information, contact Mrs. M'Lou Ishmael, Director, Marketing & Sales
Circle HelpCard No. 467
Communication, at (415) 487-5900.
Softsmith
2935 Whipple Road
Union City, CA 94587

Astro-Aid, for Apple II and /// computers, is a menu-driven set of 44 astronomical functions for a wide variety of applications. It includes a 40 page manual. $29.95.
Circle HelpCard No. 468
Zephyr Services
306 South Homewood Avenue
Pittsburgh, PA 15208
(412) 247-5915

Bar Mitzvah Compu-Tutor, for Apple II Plus and //e computers, helps young Jewish people prepare for a bar or bat mitzvah. Each copy of the program is customized for the student who will use it; Davka obtains the needed information directly from the synagogue where the bar/bat mitzvah will be celebrated. This program is intended to serve the needs of all Jews- -Orthodox, Conservative, Reform, and Reconstructionist. $49.95.
Circle HelpCard No. 469
Davka Corporation
845 N. Michigan Avenue
Suite 843
Chicago, IL 60611
(312) 944-4070



AZTEC C65

A POWERFUL, PROFESSIONAL, AND PORTABLE "C" LANGUAGE DEVELOPMENT SYSTEM FOR APPLE COMPUTERS

AZTEC C65 brings all the power of "C" to the APPLE // and APPLE //e. The AZTEC C65 "C" compiler generates fast 6502 assembler code. Run time support includes full UNIX IO, general utility functions, scientific math functions, overlay support, and device driver interfaces.

AZTEC C65 is a professional development system. It includes APPLE SHELL — a UNIX like development environment, VED — a full screen editor, AS65 — a relocating 6502 assembler, LN65 — a full feature linkage editor, MKLIB — a library utility, and a number of other development utilities.

AZTEC C65 code is portable to AZTEC C compilers for CP/M-80, PC DOS, MS DOS, CP/M-86, TRS 80 and COMMODORE 64. Code is easily transferred to and from UNIX v7. Cross compilers are available from UNIX, PC DOS, MS DOS, CP/M-86, CP/M-80, and others.

PRICES

AZTEC C65 - APPLE DOS 3.3	$199
PC DOS, MS DOS, CP/M-86, CP/M-80 TO 6502 CROSS	$750
UNIX TO 6502 CROSS (PDP-11)	$2000
"C" TUTORIAL SYSTEM (upgradable to full AZTEC C65)	$95
AZTEC C65 MANUAL	$35
AZTEC C65 without manual	$169
AZTEC CII for CP/M-80 (MP/M-80)	$199
AZTEC C86 for PC DOS, MS DOS, or CP/M-86	$249

MANX
software systems

Call for information on AZTEC C65 for ProDOS and other 6502 systems.

ORDER BY PHONE OR MAIL — DEALER INQUIRIES INVITED

MANX SOFTWARE SYSTEMS
BOX 55, SHREWSBURY, NJ 07701
Order Phone: 800-221-0440
Information and NJ Orders: 201-780-4004 Telex: 4995812

Circle HelpCard No.20

IS YOUR APPLE RUNNING A FEVER?

Don't take chances when it's so easy to find out with our new PHILLIPS COMPUTER SYSTEMS THERMONITORS.

Excess heat generated by adding a card or two to your Apple Computer can cause a number of heat related problems such as loss of data, read write errors, and possibly even cause more serious damage.

Space-age thermochromic liquid crystals tell temperature in vivid spectral colors. You can read them at-a-glance.

Place one on the top of the computer case, another on the side, and the third on the light switch in your "computer room".

They're very affordable - only $3.95 for three Thermonitors! Add .35 for postage and handling. We'll ship your order by return mail! Satisfaction guaranteed or money back.

PHILLIPS COMPUTER SYSTEMS
8551 Zionsville Road
Indianapolis, IN 46268

DEALER INQUIRIES INVITED

Circle HelpCard No.24



3M DISKETTES

$18.50 SS/DD

(10 Disks/Box)

5 ¼" SS/DD	$18.50
5 ¼" DS/DD	$23.50
8" SS/SD	$20.50
8" SS/DD	$24.95
8" DS/DD	$30.95

Ribbons, Storage Boxes and Labels, etc. also available. Complete price list available.

SATISFACTION GUARANTEED SINCE 1967

Call (415) 778-2595
or write:
Argonaut Distributing
1104 Buchanan Road #AO
Antioch, CA 94509

Add $3.00 Shipping/Handling
VISA or MC C.O.D. Orders Add $1.50
Circle HelpCard No.03

Authorized Distributor
Information Processing Products **3M**

"I made homework fun using a joystick and FLYING COLORS.™"

– Katherine Mitchell, Age 11

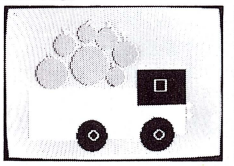


You're looking at the title page for "The Littlest Pumpkin", an original story with pictures that Katherine did for school.

First she drew the pictures with a joystick and FLYING COLORS. That was easy because she could use elastic lines and automatic rectangles and circles. Presto. Then fill in with patterns or vivid colors. She used Alpha Mode to type in labels and text.

When she was all done she used the "Slide Projector" feature to put the words and pictures together in storybook form to show her teacher.

Katherine used an Apple but FLYING COLORS works on the Commodore 64 too.





FLYING COLORS™ COMPUTER GRAPHICS SOFTWARE

Circle HelpCard No.42

At your dealer's now or call toll free (800) 874-1888.
In California call (415) 331-3022.

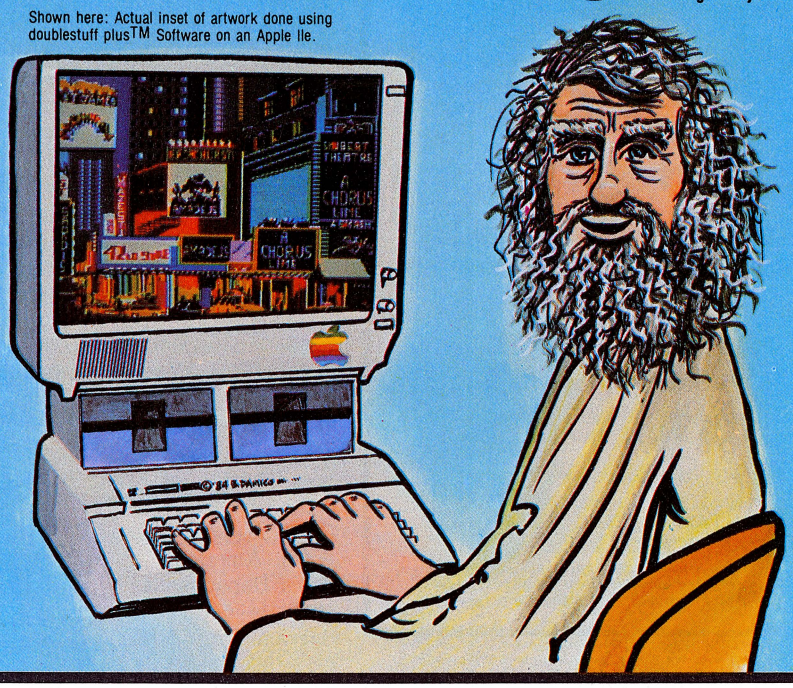
$39.95* *Also available with automatic printout routines for $69.95.

Another creation from the Computer Colorworks.

Leonardo Da Vinci Would Have Loved DOUBLESTUFF Plus T.M.

designed by Louis Bonfiglio

Shown here: Actual inset of artwork done using doublestuff plus™ Software on an Apple IIe.



If Leo were here today, he'd be using **Doublestuff Plus** on his Apple IIe.

On the main menu, he would have his choice of **SIX programs:**

1. Super Drawing
2. Drawing
3. Shape Editor
4. Character Set Editor
5. Shape Shuffler
6. Doublestuff Basic

Doublestuff Plus is the now famous **Doublestuff** with a **complete drawing package** added. Leo could now create artwork in 16 true colors. Using double high resolution (560 x 192 pixels), he can draw in one of two graphic modes: 560° or 140°. No programming necessary.

Using your Koala™ pad, keyboard or joystick, you can be as artistic as Leonardo DaVinci and create your own masterpieces.

To order, send check or money order in the amount of $69.95 New York State residents add sales tax to:

Doublestuff Software Inc.
2053 West 11th Street • Brooklyn, NY 11223
Tel: (212) 449-6300 or 1-(800) 221-9901

Dealer Inquiries invited.

Requirements: Apple IIe—either 80 column card for double Lo-Resolution. Extended 80 column card for double Hi-Resolution.

Apple and Apple logo are trademarks of Apple Computer Inc. Koala is a trademark of Koala Technologies Corp.

Circle HelpCard No.32

Utilities

Time-Trax, The Time Management System for all Apple II computers, is a time and date oriented appointment and scheduling package. It includes fast operation (assembly-level program), high-resolution graphics, and a clock module that plugs into the computer's main board. Batteries (customer supplied) keep time when the machine is turned off. $99.95.
Circle HelpCard No. 474
C.P.U., Inc.
1606 S. Clementine
Anaheim, CA 92802
(800) 854-8021 Nationwide
(800) 432-7268 California

Exact Dimensions, for the Apple II, II Plus, //e, and Apple /// computers (with one disk drive), is a foot/inch/fraction printing calculator program. For further information, contact William Lipsey, at (303) 925-3734.
Circle HelpCard No. 475
Aspen INCHware Corporation
Box 3203
Aspen, CO 81611
(303) 925-3734 (for information)
(800) 824-7888 op 175 (to order)

Word Processing

Aguila Corporation offers the following "add-on" products for use with AppleWriter II (or 2.0) on the Apple II Plus or //e computers:

- **Maestro** is an interactive, self-paced, training program. It runs concurrently with AW. $39.95.
  Circle HelpCard No. 477
- **E-Setup** (DOS 3.3 version) is a menu-driven preboot that presets the printer's print style and paper controls for continuous printing. It also includes proportional spacing and downloadable character fonts for printers such as the Epson MX/FX/RX, Gemini 10/15, and Apple DMP. $29.95.
  Circle HelpCard No. 478
- The **AE-Typeset** diskette is "swapped" with the AppleWriter program diskette during printing operations. Package includes On-line help menus, screen tutorials, a manual-on-disk, and a complete set of printer controls for the user-specified printer. $59.95.
  Circle HelpCard No. 479
- All three programs, $99.95.
- An AE-Typset demo diskette is available for $15.00.
- All backup diskettes are $15.00. (backups can be obtained for configurations that differ from those of original purchase.)

Aguila Corporation
24 Park Street
Pepperell, MA 01463
(617) 433-9502

Data Base Management

Speed File, a free-form data entry and retrieval software filing package for the Apple II Plus and //e, offers 53K of storage capacity with Language Card installed (37K with a 48K Apple). Options are selected with cursor movement. No special entry format or access codes are used. Speed File and a maximum loaded database can be booted and ready to go in less than 15 seconds; any portion of a file's contents can be brought to the screen in less than one second. For further information, contact Jeffrey Hall, at (800) 241-1994. In California, call (800) 241-1989. $125.00.
Circle HelpCard No. 480
Bluebush, Inc.
3379 St. Mary's Place
Santa Clara, CA 95051
(408) 244-1631

ALADIN is an advanced menu-driven, integrated, relational data base management system (DBMS). Features include:

- Menu driven, with help screens and function keys.
- Fast access to any of two million records.
- Relational access of up to 32 multiple files simultaneously.
- Statistical package.
- Free-form calculation capability.
- Variable-length records with data compression.
- Automatic Batch mode.
- Passwords and I.D.'s for "layered" access by different users.

The program is available in versions for the Apple /// ($795.00) and Apple II (64K RAM and two disk drives). Because of memory limitations, the Apple II version ($595.00) does not include the calculator module, help screens, or printer forms capabilities. A Macintosh version will be available later in 1984. For further information, contact Wes Thomas, of Frank Barth, Inc., at (212) 398-0820.
Circle HelpCard No. 481
A.D.I. America
Sales Department
1215 Howe Avenue
Sacramento, CA 95825
(916) 925-2229

BANNER-RAMA™

The FASTEST, EASIEST Banner maker available.

Prints Neat banners for parties, games, special occasions, or signs for bulletin boards, garage sales, store sales. It has **1001 uses.** Prints 6" or 3½" letters with four format options. Fun and easy to use. Menu driven and unlocked. Runs on Apple II+, //e, ///, IBMpc, Commodore 64. Cost $29.00

D-LABELS+ ™

Tired of typing catalog to see what files are where ? Use **D-LABELS+** to print **sorted** and **formatted CATALOG** labels. Uses printer enhancements for professional looking labels. Special option allows printing of Mailing and Shipping labels. Comes with manual and supply of labels. Fast and easy to use. Runs on Apple II+, //e. Cost $39.00

Specify type computer when ordering, add $3.00 shipping, CA residents add 6% tax.

FlowerSoft 564 TARA (209) 239-2116 MANTECA, CA 95336

Apple II+, //e, ///; IBMpc; Commodore 64; are trademarks of Apple Computer Inc., IBM Corp., and Commodore Computers respectively.

Circle HelpCard No.16

Raise your Apple's IQ Twelve Times A Year!



Subscribe Now & Save $12.00 off the Cover Price!

A one-year subscription to NIBBLE brings you twelve issues packed with programs and comprehensive articles to help you get the best out of your Apple.

You'll get over $500 worth of programs for Home, Business, Education and Entertainment with complete instructions. Nibble articles show what each program does, how to use it and enter it into your Apple, Franklin ACE or other Applesoft-compatible computer.

You'll enjoy regular features for the beginner as well as the expert. Among these are the Educational Corner, where programs help make learning fun, Tips & Techniques which showcases little-known programming tricks, Utilities to facilitate Basic, DOS & Printing, and Games with arcade fun you can type and run.

Try a NIBBLE!

Here's what some of our Readers say:

- ☐ *"Certainly the best magazine on the Apple!"*
- ☐ *"Programs remarkably easy to enter."*
- ☐ *"Your service is fantastic . . . as a matter of fact, I'm amazed!"*

Apple® is a registered trademark of Apple Computer, Inc.
ACE® is a registered trademark of Franklin Computer, Inc.

Note
- ☐ Canada surface subscription rate is $34.95
- ☐ Outside the U.S. and Canada surface subscription rate is $39.95
- ☐ Domestic U.S. First Class subscription rate is $51.95
- ☐ Canada Air Mail subscription rate is $59.95
- ☐ Outside the U.S. and Canada Air Mail subscription rate is $89.95

All payments must be in U.S. funds drawn on a U.S. bank.

Join the more than 120,000 Apple/ACE users who say:

"NIBBLE is terrific!"

nibble

MasterCard VISA
We accept Master Charge & Visa

Box 325, Lincoln, MA 01773 (617) 259-9710

I'll try nibble!
Enclosed is my $26.95 (for 12 issues)
(Outside U.S., see special note on this page.)

☐ **check** ☐ **money order**
☐ **bill me (U.S. only)**

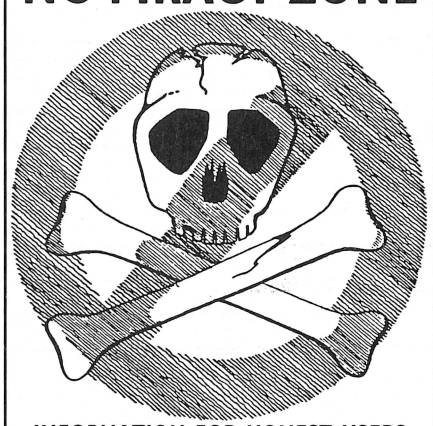
Your subscription will begin with the next issue published after receipt of your check/money order.

Card # _____ Expires _____
PLEASE PRINT CLEARLY
Signature _____
Name _____
Address _____
City _____
State _____ Zip _____

©1983 by MicroSPARC Inc. All Rights Reserved.

Circle HelpCard No.22

NO PIRACY ZONE



INFORMATION FOR HONEST USERS

Thousands of Apple users have already joined us.

Hardcore COMPUTIST

What you can't get anywhere else.

- Techniques to unlock software
- Unlocking tutorials for beginners
- Tips on program modification
- How to modify DOS
- Game secrets PLUS Advanced Playing Techniques (APT)-how to get those extra ships and weapons
- In-depth product reviews
- Straight answers to your questions

If you're a vigorous Apple computist,

YOU CAN'T AFFORD TO BE WITHOUT US ANY LONGER!

Annual Subscription Rates
Please check one of the following:

- ☐ U.S. $25
- ☐ Canada, APO/FPO, 1st Class $34
- ☐ Mexico $39
- ☐ Foreign airmail $60
- ☐ Foreign surface mail $40

F1

☐ Yes, start my subscription now.

Name _____

Address _____

City _____ State _____ Zip _____

Country _____

Visa/MC _____ Exp _____

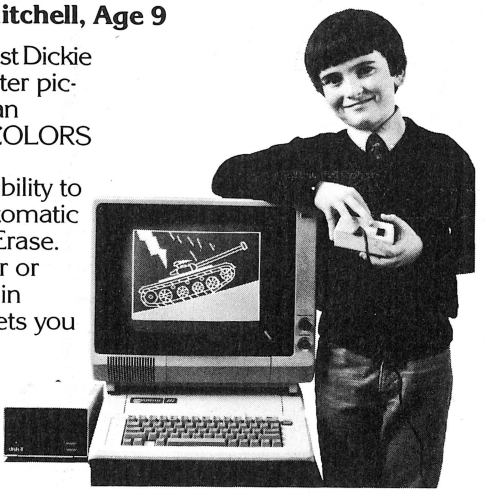
Signature _____

Send to: Hardcore COMPUTIST
Subscription Department
P.O. Box 44549F
Tacoma, WA 98444

Circle HelpCard No.31

"Pictures like this are easy using a joystick and FLYING COLORS.™"

– Dickie Mitchell, Age 9



You'd be amazed to see how fast Dickie can create one of these computer pictures using just a joystick (not an expensive tablet) and FLYING COLORS software.

The speed comes from the ability to draw elastic lines and make automatic rectangles and circles. Presto. Erase. Zip. Fill an entire area with color or patterns. And you can even type in labels or text too. Micro mode lets you do the most exacting detail.

Dickie uses the "Slide Projector" feature to create whole shows, and of course, he can save the pictures on disk for later use.

FLYING COLORS. It's a snap. For Apple or the Commodore 64.

At your dealer's now or call toll free (800) 874-1888. In California call (415) 331-3022. $39.95*

***Also available with automatic printout routines for $69.95.**

Another creation from the Computer Colorworks.

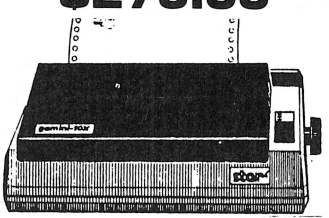
FLYING COLORS™ COMPUTER GRAPHICS SOFTWARE

Circle HelpCard No.43

HUGE SAVINGS ON PRINTERS

FRICTION (Single Sheet) & TRACTOR (Pin Feed)

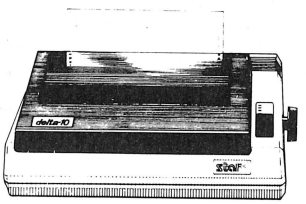
GEMINI 10X $275.00



- 120 CPS
- Centronics Parallel interfaced

star micronics inc

DELTA 10 $390.00



- 160 CPS
- 8K Buffer (Exp. to 16K)
- Both Parallel/serial interfaces are standard

GEMINI 15X
Same great features as above
15" wide carriage **$400.00**

Delta 15
Same great features as above
15" wide carriage ..... **CALL**

CABLES/ACCESSORIES

PA10A 10 ft. 36/36 pin standard parallel	32.00
IB-P10 10 ft. 36/25 pin parallel for IBM	32.00
PA6T 6 ft. 36/16 pin parallel for TI-99/4A	25.00
RS10A 10 ft. 25 pin standard RS-232 (full loaded)	25.00
APPLE DUMPLING GX	65.00
GRAPPLER PLUS	105.00
Buffered (16K) GRAPPLER PLUS	165.00
Star Universal Communications Interface	55.00
Gem-05 Serial Interface	100.00
Gem-01 Replacement Ribbon	6/15.00; 12/24.00
Elek-Tek Dust Covers for Gemini 10X/15X	5.00

Corp. Accts. invited. Min. Ord. $15.00 Mastercard or Visa by mail or phone. Mail Cashier's Check, Money Ord., Pers. Check (2 wks. to clr.) Add $4 1st item, **(AK, HI, P.R., Canada add $10.00 first item)** $1.00 ea. add'l shpg. & handl. Shipments to IL address add 7% tax. Prices subj. to change **Write for free catalog. Return policy:** Replacement only for defective on arrival. Thereafter, MFR. Warranty applies. **All ELEK-TEK MERCHANDISE IS BRAND NEW, FIRST QUALITY AND COMPLETE.**

ELEK-TEK, inc. 6557 N. Lincoln Ave., Chicago IL 60645 (800) 621-1269 (312) 677-7660

Circle HelpCard No. 40

COST ISN'T OUR ONLY ADVANTAGE

Our complete line of 100% Apple® compatable disk drives are not only superior in performance and reliability; they offer you a choice.

Whether you select our full height AP-100, our slim line AP-105 or our new ergonomically designed twin pack AP-110, you can rely on Quentin to deliver quiet, fast and efficient performance.

When you are ready to step up to Winchester mass storage, Quentin will be there to meet your growing needs, from 5 to 31 megabytes of formatted capacity with the Q-500 and Q-600 series.

Every Quentin drive has been engineered to provide you with years of reliable service and we stand behind that promise with a one year limited warranty on parts and labor. Your Authorized Quentin dealer will be happy to demonstrate all of the outstanding features of our range of disk storage products, including the cost; but remember "cost isn't our only advantage."

QUENTIN™

100% Apple® Compatable

Quentin Research, Inc.
9207 Eton Avenue,
Chatsworth, Ca. 91311
(213) 709-6500



Q-500

AP-110

AP-105

AP-100

Quentin is a registered trademark of Quentin Research, Inc.
Apple is a registered trademark of Apple Computer, Inc.

Circle HelpCard No. 29



Treat Yourself to *More Color More Detail...*

Treat Your Apple //e to *HGR6*

Imagine — hi-res graphics with 16 colors. 560 x 192 dots. Your Apple //e with Extended 80-Column Card has the capability. Now HGR6 makes it easy to use by adding new HGR, GR, and HCOLOR functions directly to Applesoft. Change your current programs for 16 colors — or create new ones with twice the detail!

HGR6 lets you easily save double-res images, too. And "compress" them to take less disk space. Viewing both regular and double hi-res images is a snap with the slide show program included.

HGR6 is a real treat at only $49.95. Want more color and detail? Get HGR6 today!

Available at your local computer dealer or direct from ALF. Includes both DOS 3.3 and ProDOS versions. Apple is a trademark of Apple Computer Inc.

ALF ALF Products Inc. 1315F Nelson St. Denver, CO 80215 (303) 234-0871 Telex: 4991824

Circle HelpCard No.01